

THE JOURNAL of FAMILY WELFARE

Personal, Marital & Sociological

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SEVENTH INTERNATIONAL CONFERENCE ON PLANNED PARENTHOOD

For people from forty far-flung countries, belonging to many races and creeds but working for common aims, to meet and exchange views together for a whole week, in beautiful surroundings, is a good and stimulating experience. And when the cause for which the Conference is held is of a pioneering nature, touching the core of the lives and happiness of men and women, when it serves purposes of a complex nature—social, economic, political and scientific—then the ideas generated by an international gathering have a dynamic effect on persons and programmes.

The Seventh International Conference on Planned Parenthood held in Singapore in February 1963, can certainly be said to have had this effect. It was well planned and organised, and given a wide framework covering the many aspects which are now being included in family planning work. It emphasised the individual freedom of countries to work out their own solutions and yet demonstrated the real unity which underlies the work in this sphere wherever it may be carried out. The decision not to formulate resolutions served to underscore the fact that this was a working conference, dealing with practical programmes in being and to-be-introduced, and there was not the need to make formal definitions or declarations.

Following the trend started at the Fifth Conference in Tokyo, the scientific and medical aspects received special importance on the Conference programme. The scientific data requiring presentation is growing both in significance and in volume and it is not surprising to find a greater weightage in this direction. In fact, a scientific "break-through" is one of the possibilities which must be reckoned with in planning for the future of this movement. For, with new methods of birth control, it is possible to imagine that the organisation of family planning programmes may have to be entirely reoriented in many countries.

The titles of the scientific sessions are an indication of the range covered—The Use of Oral Compounds, The Use of Intra-uterine Devices, Inhibitory Compounds, Neurohumoral mechanisms, Biochemistry of the Uterus, Immunological aspects of Reproduction, Control of implantation and last but not least, a general Reassessment of birth control methods including sterilisation.

But while the scientists were working on medical solutions, the demographers and sociologists were laying pin-point emphasis on certain trends in population growth and their significance in various parts of the world. The cultural factors influencing fertility—which include religious beliefs, social traditions and patterns of behaviour of people—also came in for some very interesting analyses and threw light on the question which the family planning worker in the field often so despairingly asks: “why don’t they take to family planning when it can save them so much misery and unnecessary family burdens?”—the “they” being the ordinary, humble folk in every country who plod along patiently and resignedly in the old ruts. Linked to this was an Educational Panel where the very practical question: “Ways to reach people” brought to the fore the crux of all organised work in this field—how do we spread knowledge about family planning and how can we help people to adopt its practice.

Certain other aspects also came in for attention. Infertility is a limited but poignant problem; abortion is a widespread practice and has many complex facets to it; sex education, preparation for marriage and marriage counselling are of great importance in certain stages of social development.

Whilst it is not possible to do justice in this brief round-up to all the papers presented at the Conference, one can say without hesitation that they represented the most advanced thinking to date, on the subjects dealt with.

A full Report of the proceedings of the Conference will be published by the IPPF London Headquarters in due course. Meanwhile, in order to give family planning workers all over the country the benefit of reading some of the papers presented at the Conference, the *Journal of Family Welfare* has, with special permission, printed in this issue, a few of those which deal with topics of more general interest, selected on a random basis.

A.B.W.

INAUGURAL ADDRESS AT THE SEVENTH INTERNATIONAL CONFERENCE ON PLANNED PARENTHOOD

Mr. LEE KUAN YEW

(Prime Minister of Singapore)

First, may I welcome you to Singapore. We are happy that you have chosen our city as the venue for the Seventh International Conference sponsored by the International Planned Parenthood Federation. Here in a relatively modern city, in an Asian context, you will find a microcosm of the problems of population control. Modern science has checked the ravages of disease and pestilence. Floods, drought and famine no longer occur. But old habits and ancient traditions built out of centuries of experience of natural disasters and uncontrollable plagues, still prevail. Old cultural patterns and family values, designed to meet conditions which prevailed hundreds and thousands of years ago, still persist with grave consequences to the problems of economic and industrial growth.

Quite apart from religious principles, by and large, Chinese and Indian families believe that the more children a man has the greater is his good fortune. In the old days, the more wives a man had the higher his status. Just like motor-cars, wives and children were a status symbol. All this proliferating made sense in an age when periodic plagues, drought, floods and famine regularly decimated the population. But the same habits in a relatively affluent society, whose public health standards are high, lead to a phenomenal increase in population growth that cannot but dampen the spirits of those who are entrusted with the problems of economic growth, industrial expansion and the maintenance of standards of living

For instance, projections based on our 1957 Census indicate that the number of families in the reproductive age group of 15 to 44 years will in 20 years' time be four times what is now. Our rate of growth has been nearly four per cent per annum. The indications are that with intensive propagation of birth control methods we may be able to check it to there per cent but this gives us very little joy when we compare it to the rate of one to 1.5 per cent which other countries with higher standards of living than ours have. Any Minister for Finance charged with finding revenue for universal education and public housing and health services will wilt at the prospect, in 20 years, of a population of 3.2 million, nearly double our present figure.

One of the curious things about social values is the time lag between changed social conditions and established values and attitudes. I have mentioned how the larger a man's family the higher his status. But it is not only the people who are slow in adjusting themselves to new circumstances.

Even we, as a Government, find ourselves pursuing contradictory policies. On the one hand, we want to discourage large families and spend considerable time and effort and money to achieve this. On the other hand, we have inherited and are still practising a system of values which gives the advantage to the man with a larger family. For instance, in public housing the number of points a man scores for priority in getting accommodation increases with the number of children he has got. So too with social welfare benefits, the bigger the family the bigger the relief and the same with income tax reliefs. We are aware that this is a contradiction. But humanitarian values and sentiments stall us from any change.

I will be grateful if in the midst of the deliberations of this gathering of distinguished scientists and scholars, some time could be found from your more important deliberations to give a lead to some of our sociological problems connected with population control.

Of course I have assumed that Asian governments want to increase industrial growth by population control. But perhaps this is an assumption which is dangerous to make. For us, a small people, the decision is obvious. There is no hope of fulfilling any expansionist ambitions. It is disturbing, however, to think that there are some bigger nations whose population expansion can become phenomenal if health, nutritional and sociological conditions, which modern science has brought to Singapore, were also to prevail over some large countries in Asia. What happens if one nation controls its population growth and others do not? What happens in the long run if one country becomes overwhelmingly more numerous and more powerful than the other? The problem of the balance between nations is a delicate and sensitive issue. Sometimes even the balance of population within a nation can also become a sensitive issue. I have read that in a particularly advanced country one religious group which does not permit birth control has expressed its confidence of gaining political dominance because numerically it is growing in proportion to the rest of the population. Is the world then to be finally inherited by those nations or religions which do not practise birth control?

These are the wider imponderables with which, fortunately, we in Singapore need not concern ourselves. We have decided that it is in our interest to check our population growth. Our only problem is how to disseminate knowledge of simple birth control methods as quickly as possible, and how to educate our people to new social values to meet our new social and economic conditions. If we do not, then we shall face grave problems on standards of life.

In the midst of an august body of so many distinguished specialists and scholars, it would appear impertinent of me to make these remarks at the opening of your conference. May I say in mitigation that I have drawn these special features in Singapore to your attention in order that in between your labours, if you were to wander through the city you would appreciate the social phenomena more easily. And when you see so many little children and young people, you can recall that 60 per cent of our population are below 18 and are being fed and housed and schooled by the efforts of some 25 per cent of the total population.

Finally, may I wish you all a pleasant stay in Singapore? I hope that you will find our reception hospitable, the city friendly, our people courteous and that you will take back with you happy memories of the few days you will spend here.

FERTILITY AND BIRTH CONTROL IN DEVELOPED SOCIETIES, AND SOME QUESTIONS OF POLICY FOR LESS DEVELOPED SOCIETIES

D. V. GLASS, PH. D., B. SC. (ECON).

(Professor of Sociology, University of London)

At recent conferences organised by the I.P.P.F., discussions of fertility and birth control have tended to concentrate increasingly upon the less developed societies. This is scarcely surprising, having regard to the high birth rates and mounting rates of natural increase in those societies and to the fact that the high rates add greatly to the task of raising what are only too often abysmally low levels of living. It is true, too, that references to the demographic transition in developed societies have appeared to be more depressing than helpful. Thinking in terms of Western experience, demographers have stressed the length of time taken for fertility to come under control in response to general social and economic changes. That very length of time has underlined the need for conscious and organised action in the high birth rate countries today and has reinforced the demand for applying such a technique as sterilisation, as a cheaper, more effective and more rapid means of achieving a reduction in family size.

Yet to disregard the demographic history of the West is to deprive ourselves of relevant experience. Developed societies have succeeded—often in the face of considerable institutionalised hostility—in achieving just that kind of reduction in fertility which is now being pressed for elsewhere. Whatever our views of the nature of historical explanation, we cannot assume that, in attempting to encourage the spread of the small-family pattern in Asia and Latin America, we have to begin with a 'clean slate'. There is background material from the past and my justification for writing this paper is my belief that some, at least, of the background material is relevant to the problems with which we are faced today.

I should like to begin by commenting on a number of misconceptions which, until relatively recently, were sometimes held by otherwise well-informed writers. They are: that birth control does not adequately account for the fall in Western birth rates, biological factors also being involved;¹ conversely, that a primary cause of the fall was the avail-

(1) For example, Professor F.A.E. Crew, *B.M.J.*, 15 Sept 1928, p. 478.

ability of reliable contraceptive techniques;² and that in any case the fall was very slow.

As to the first point, it is extremely difficult to assess changes in, say, biological fecundity over time. But the information available provides no basis for a general biological explanation of the decline in the birth rate in developed societies as a whole, while for a few countries there is considerable counter-evidence. In Britain, for example, recent direct inquiries confirm that probably not more than 7 to 8 per cent of married couples are biologically infertile, a proportion not differing significantly from that in the 19th century. And in the U.S.A., with the present ages at marriages and marital fertility rates, it is likely that even total childlessness (voluntary and involuntary) will not exceed, and may be below, 9 per cent among recent marriage cohorts.³

On techniques, it is true that the large scale production of the condom had to await, first, the vulcanisation of rubber and, subsequently, the use of liquid latex. Equally, the rubber industry was needed for the cervical cap (advertised in Britain in the 1880's) and, later, for the Mensinga pessary.⁴ The availability of such contraceptives in the 1870's and 1880's would appear to fit in with the beginnings of a systematic control of family size in West and North West Europe. In fact, however, effective reduction in fertility had been achieved in France well before such contraceptives were available, while in other European countries little use was made of the newer devices. Coitus interruptus was the major means of control and it is still very important in most Western societies. The evidence for this is largely literary and qualitative, but there is direct documentation for a number of countries, covering a wide span of political and social structures. Thus in Britain, among couples married in 1950-59 and acknowledging the use of birth control, over 27 per cent practised coitus interruptus as the primary method.⁵ In Czechoslovakia, among married couples interviewed in 1959 and using, or having used birth control, 43 per cent reported coitus interruptus as the sole method used (a further 24 per cent reported withdrawal plus some other method or methods). A study undertaken in Hungary in 1953 yielded equally high proportions, withdrawal being

(2) For example, Miss Jacquetta Hawkes, reviewing J. A. Banks, *Prosperity and Parenthood*, in *Family Planning*, October 1954, p. 6.

(3) Further details in support of these statements are given in a note by me in a forthcoming issue of *Proceedings of the Royal Society*.

(4) See N.E. Himes, *Medical History of Contraception*, Baltimore, 1936, pp. 201-202 and 249.

(5) Rachel M. Pierce and Griselda Rowntree, 'Birth Control in Britain', II, *Population Studies*, Nov. 1961, p. 132, Table 4.

reported by 56 per cent of the women who had practised birth control.⁶ It is only in the U.S.A., among the Western countries in which direct investigations have been carried out, that withdrawal has ceased to be important, accounting for only 2 per cent of the women married in 1940-50 and interviewed in 1955 and practising contraception, though a further 17 per cent reported the use of the safe-period.⁷ In many European countries, too, birth control is complemented by birth prevention through abortion, the incidence of abortion being especially high for those East European countries in which, since World War II, the grounds for legal interruption of pregnancy have been very greatly extended.⁸ Thus, taking the West as a whole, socially effective control of the birth rate was attained by means which owed nothing to the new technology, and even today modern techniques continue to play a minor role in many Western countries.

Finally, the spread of birth control and of the small-family pattern has been accomplished in a relatively short period, if we count from the point at which a fall in the birth rate first became visible in national statistics. It is true that there may have been a long prior period of fermentation—how long we do not know, and we cannot assume that it was constant as between different countries. But there has been some tendency to exaggerate the period of fermentation—almost inevitably so, since discussions of the demographic transition often imply that the point from which counting should begin is that at which the earliest major and persistent falls in mortality are recorded. Although that point is certainly a landmark in demographic history, it can only be regarded as a universal initiation date in the transition if it is assumed that mortality changes must inevitably be followed by changes in fertility, and this involves an excessively mechanical view of social development. No doubt substantial and persistent reductions in mortality will eventually introduce new sets of pressures on reproductive behaviour. But the kinds of reductions which occurred in Western Europe in the 17th and 18th centuries could easily have been absorbed for many generations, given the existing population density and the level of technological development. Further, some elements of control of population growth had been introduced in advance of any major change in the death rates. Thus Western marriage patterns (in contrast to

(6) D. V. Glass, 'Family Limitation in Europe', in C. V. Kiser, ed., *Research in Family Planning*, Princeton, N.J., 1962, pp. 255-257.

(7) The Freedman, Whelpton and Campbell Study, cited from Pierce and Rowntree, p. 131. The women covered in the inquiry were 18-39 years of age.

(8) Glass, *op. cit.*, pp. 238-242. In France, too, abortion is generally considered to be a major means of restricting family size.

patterns in much of present-day Asia or Latin America) were themselves conducive to, and a factor in, the control of population growth, and these patterns appear to have been dominant in Western and Central Europe from at least the 17th century onwards.⁹ By the first half of the 18th century, too, groups of the nobility in France and Central Europe had already visibly and significantly reduced the size of their families.¹⁰ In France, the pattern initiated by the nobility spread both to rural communities and the bourgeoisie by the end of the 18th century, in the absence of any substantial industrialisation. In some other European countries, the early stages of industrial development were not conducive to a widened control of fertility. In Britain, factory employment put a premium on absence of traditional skills and, in the early 19th century, gave more favourable employment opportunities for children, young unskilled adults and women than for the older men who had grown up with the more traditional system of production, with its customary processes of acquiring saleable skills. Paternal financial responsibility was lessened, given the earning power to other members of the family, and there could hardly have been a powerful incentive to limit the numbers of children.

The pre-industrial and early-industrial social complex was not uniform as between different countries in its implications for population control. But once a fall in the birth rate had been 'triggered', further decline was systematic and fairly rapid—least so in those countries (such as the U.S.A. and France) in which the 'triggering' had occurred earliest, and most rapid in those (such as Poland and Bulgaria) in which the initial fall was very late. But even in Britain, one of the earlier countries to show the new trend, the birth rate fell by a third in thirty years and by a half in fifty years. What this fall meant in terms of reproductive behaviour may best be illustrated from the statistics for a few countries.

In Table I, estimated generation fertility rates are given for women born around various points of time. The statistics indicate the average total number of live births occurring during the whole reproductive period to, say, a woman born around 1840 in England and Wales, compared with the numbers for women born at each subsequent tenth year. (The women born in 1900 would have reached the end of their repro-

(9) Cf. paper by J. Hajnal, 'European marriage patterns in perspective', in forthcoming volume, D. Eversley and D. V. Glass, eds. *Essays in Historical Demography*.

(10) See, for example, C. Levy and L. Henry, 'Ducs et pairs sous l' Ancien Regime' *Population*, Oct.-Dec. 1960; also S. Peller, 'Births and deaths among Europe's ruling families since 1500', in the forthcoming volume of Eversley & Glass.

ductive period by 1950.) The fall is visible throughout the generations, for it was initiated among the older women who, around the 1870's and 1880's in much of Western Europe, cut short their childbearing. This has, indeed, become a classic pattern in all countries which have

TABLE I

Total number of live births per woman (all marital conditions) for women born at different points of time¹¹

Birth year of Women	Country			
	Sweden	England & Wales	Norway	U.S.A.
1840	4.4	4.7	—	5.0
1850	4.3	4.4	—	4.8
1860	4.0	3.9	—	4.4
1870	3.7	3.3	3.9	3.4
1880	3.2	2.8	3.4	3.1
1890	2.5	2.3	2.7	2.8
1900	1.9	1.9	2.3	2.4

shifted from high fertility to low fertility levels. It is the women who have had 'enough' children who cease to bear more; and the transfer of the fall in fertility from the older to the younger women and from the longer to the shorter durations of marriage is part of the process of change in family size 'targets' and of the permeation of a society by birth control. Although there have been differences in the spread within societies—differences between social classes and religious groups, for example—it is also part of the classic pattern that the smaller family becomes dominant throughout, so that the absolute differences within societies soon become greatly reduced. The data in Table 2, summarising the history of marital fertility in Britain, show how this occurred in one country as between the marriage cohort of 1870-79 and those of 1925 and 1935-39. And the homogenisation of fertility patterns indicated in the table has continued among more recent cohorts. Fertility has risen since the 1940's and childlessness appears to have fallen somewhat. But the elimination of the larger families has not ceased. With the concentration of family size on the 1 to 3 children (accounting for 81 per cent of fertile couples in the 1935-39 cohort), the force of the traditional

(11) Data from forthcoming publication—D. V. Glasz and E. Crebenik, 'World Population, 1800-1950', to appear in the final volume of the *Cambridge Economic History*. It is likely that for the U.S.A. the fertility of the earliest generations is somewhat understated.

variable of social class has weakened. Birth control—at least for birth spacing purposes—is increasingly practised from the beginning of married life and is coming to cover almost the whole married population. An estimate based upon the data collected by the 1959-60 sample survey of the Population Investigation Committee suggests that, by the end of the childbearing years, some 87 per cent of the couples married in 1950-54 may have used birth control, and this proportion is more likely to understate than overstate the probable total incidence.¹²

TABLE II

*Great Britain. Total Number of Live Births per Married Woman for First Marriages of at least 20 Years' Duration (Women under 43 years of age at first marriage)*¹³

Date of marriage	No. of live births per marriage	Percentage of marriages with the following numbers of live births:				Total
		0	1-3	4-5	6 & over	
1870-79	5.8	8.3	21.1	19.0	51.6	100.0
1900-09	3.4	11.3	49.2	20.4	19.1	100.0
1920	2.5	13.8	61.8	15.1	9.3	100.0
1925	2.2	16.1	65.0	12.2	6.7	100.0
(1935-39)	(2.2)	(13.8)	(73.2)	(9.2)	(3.8)	100.0

In giving the above indications of changes in marital fertility in the West and their relation to the spread of contraception, my purpose has been twofold. First, to show that in a large number of what are now regarded as highly developed societies, birth control *has* worked and in a relatively short period. When, in the second edition of his *Essay*, Malthus attempted to expound the policy implications of his theory, the rates of population growth in Europe and Russia were only around 0.7 per cent per year—very much lower than in the underdeveloped societies today. It was not until after the 1870's that the

(12) The data for the cohorts from 1870-79 to 1925 are from D. V. Glass and E. Grebenik, *The Trend and Pattern of Fertility in Great Britain*, Part I, London, 1954, pp. 85-87. For the 1935/39 cohort the data are from the Population Investigation Committee survey of marriage, fertility and birth control, on which the previously cited article by Pierce and Rowntree was also based. The number of cases in this cohort is 312. Unfortunately, there are relatively few countries for which it is possible to show statistically the way in which family size distribution has changed between successive marriage cohorts. One other country is Norway, for which similar data are available from the marriages of the 1870's onwards and the pattern shown is very similar to that in Britain, even though marital fertility is somewhat higher in Norway. See G. Jahn, *Barnetallet i norske ekteskap* (in 1950 Census of Norway, vol. v, Oslo 1957, esp. pp. 12-13 and 24-25).

(13) See Appendix for discussion of this estimate.

continuing long-term fall in mortality came to be initiated (in the middle of the century an expectation of life at birth of 40 years was found only in the most advanced countries). And the growth consequences of that fall were never fully displayed in Europe; for they were checked by the counter-fall in family size, achieved through a widening and increasingly persistent use of birth control. Secondly, I have cited the experience of the West not to exhibit Western superiority in planning for social change but as evidence of the very reverse. Western married couples did not—and in a considerable measure still do not—avail themselves of modern techniques of contraception. They were not encouraged by public authority or by major social institutions; on the contrary, the State refused to be involved and the churches were for much of the time actively hostile. At the end of the 19th century, for example, there was nothing to choose in official attitudes to birth control between the attitude of the Anglican Church and that of the Roman Catholic Church. The famous Bradlaugh-Besant trial was not a victory for voluntary parenthood but rather a public spectacle of the law being thwarted by a technicality. The main contribution of the trial was publicity and to an extent which probably helped to reduce the incidence of comparable trials subsequently and thus eventually to open the way for the establishment of birth control clinics. But birth control clinics were not established—not even that of Dr. Marie Stopes—until after the most important initial phase of the spread of birth control had been passed. In any case, neither the methods advocated nor the links with the public are such as even now to enable the clinics in Britain to be a source of advice for more than a very small proportion of married couples who use birth control.¹⁴ The existence of large numbers of clinics in Britain, like the change of the official attitude of the Anglican Church in 1958, is a reflection of the spread of birth control, not an explanation of it. Further, though in response to questions asked in the survey of the Population Investigation Committee, some 88 per cent of couples married up to 1939 and using birth control reported that they had succeeded in limiting the number of children born,¹⁵ this does not mean a startlingly high rate of effectiveness, for it does not indicate that so large a proportion had no more than the numbers of children they had originally planned to have. Indeed, until the most recent cohorts of marriages, only a small proportion of couples began married life with a definite idea of the num-

(14) Even among couples married in 1950-59 and using birth control, only 8 per cent obtained their advice from the clinics. Pierce and Rowntree, *op. cit.*, p. 185.

(15) Pierce and Rowntree, *op. cit.*, Part I, *Population Studies*, July 1961, p. 21.

bers of children they wanted to have.¹⁶ In sum, therefore, birth control has been effective in the West, but with no planning or organisation, with very little institutional assistance and in the face of many obstacles. There was certainly considerable propaganda in its favour, but from groups which were by no means part of the recognised authority structure of the society. That authority structure was at best indifferent and often overtly hostile.

It might appear to follow from this account of Western experience that the prospects for spreading birth control in less developed societies today are very much better than they were in the West in the late 19th century. In some countries, there is now active government participation in, and financial support of, birth control movements. Research sponsored by the countries and by Foundations may help to throw light upon the ways in which acceptance of birth control can be facilitated. Various forms of communication devices are being prepared and tested. And new, more acceptable and more effective contraceptives are now at least in sight. Perhaps the Japanese 'miracle' can be duplicated in other countries in Asia and Latin America, and within the next twenty or thirty years.¹⁷ But though I agree with much that is being done to spread birth control in the high birth rate countries, I do not share

(16) Unpublished data, tabulated by Mrs. R. Pierce, show that even among the couples married in 1955/59 only 57 per cent had definite ideas at the time of marriage concerning the numbers of children they wished to have. (The proportion is 33 per cent among couples married in 1935/39.) Of course, 'targets' or 'desired numbers' also change during married life.

(17) The very astonishment with which the post-war fall in the birth-rate in Japan is sometimes hailed suggests a misunderstanding concerning the nature of the factors which have been operative. To begin with, of course, Japan is not an underdeveloped society; its population is highly literate, well-educated, now substantially urban, heavily involved in industry (which contributes the bulk of the national product), and avid readers of newspapers and periodicals. Secondly, the use of abortion on a mass scale as a means of birth prevention is not the result of government policy; on the contrary, it was public pressure on the Government which made legally available, on a very wide basis, a form of control which had been embedded in the social customs of Tokugawa Japan, and the suppression of which was part of the Meiji programme of Westernisation. Even now governmental policy in Japan is somewhat ambivalent, and much of the campaign to spread the use of contraception (as distinct from abortion) has been non-governmental. That switch is now beginning to be made, to judge from the data supplied by repeated national birth control surveys, and these surveys show the diminution of the formerly traditional dependence of parents on their children for support in old age. Incidentally, in terms of its relation to the spread of rational self-interest in the control of fertility, I should regard legalised abortion as much less objectionable than mass sterilization. The very fact that decisions have to be made repeatedly would, in my view, be conducive to the subsequent adoption of contraception by the society. Cf. Population Problems Council (The Mainichi Newspaper), *Sixth Opinion Survey on Family Planning and Birth Control: a Preliminary Report*, Tokyo, (1962).

the optimism of some of the sponsors. Much more needs to be done than is being done, and not solely within the field of population control.

For all the disadvantages of piece-meal action and lack of official support, developments in the West had the great (and in my view essential) advantage that they were buttressed by the underlying economic and social changes. Some of the important changes were not necessarily associated with industrialisation: the growth of secularism, dating from the 18th century controversies in France and the 19th century Darwinian controversy in Britain; the expansion of literacy, linked directly with the Reformation in Germany and Scandinavia, but having to wait for the 19th century industrial and political pressures in Britain. Other changes were more closely the result of, a component in, or at least contemporaneous with, industrialisation as such: urban growth, which in Britain tipped the balance of population distribution to over 50 per cent in cities and towns by 1851; the withdrawal of children from the labour market; the improvement in employment opportunities for, and in the socio-legal status of, women; the provision of compulsory primary and expanded secondary education; the reform of the professions and the tying together of education, employment and social status; the provision of community alternatives to kinship for support and social control; the expansion of the means of physical and intellectual communication. No single one of these changes can at present be pointed to as crucial. But together they helped to raise not only levels of living but also aspirations; to break the hold of earlier social norms and customs; to increase the degree of rational self-interest in individual decision processes; to make couples realise that limiting family size was a rational way of achieving a desirable and attainable end.¹⁸ It was because many such changes had taken place in Britain by the 1870's that the publicity given to the Bradlaugh-Besant trial could have effect. Earlier publicity, given in the 1820's to Francis Place's 'Diabolical Handbills', had produced no measurable reaction. But by the late 19th century, the middle class (and soon afterwards a substantial section of the working class) had come to feel that there were desirable and attainable ends in respect of which the limitation of family size provided a valid means.

(18) There are, of course, examples of societies which, in pre-industrial circumstances, have practised some form of population control. France has already been referred to—a society in which, in the 18th century, there were opportunities for advancement of status, but within a relatively stable framework. Tokugawa Japan is another. A third example is Ireland, after the Great Famine of 1845; the controls adopted in that country were the lowered proportions of people marrying and a persistent and heavy emigration.

In underdeveloped societies today, the changes referred to above have only been partially effected. In some countries, even programmes aimed at modernisation—community development programmes, for example—contain powerful traditionalist elements. In other countries—perhaps in most—the new techniques for reducing mortality have been largely external to the individual and have thus not constituted an essential part of the overall process of social change, as the much more crude means of reduction did in the 19th century.¹⁹ What is needed is not just short cuts to better communication on birth control or more acceptable contraceptives, but short cuts to the wider, cumulative social changes which will help to create new pressures on reproductive behaviour.²⁰ This may require a fresh examination of priorities in economic and social planning. It may be useful to focus far more heavily on urban centres than has so far been done—to use 'self help' and community development to clear slums and rehouse the urban working class, to provide visible shop windows of concrete change. More may need to be spent on compulsory education and adult literacy campaigns than would appear justified by a strictly economic calculus, in order thereby to provide more rapidly the basis for other phases of social change. Closer links between central government and the local community may help to intensify the sense of total involvement of the society in development. More forcible efforts to replace the influence of kinship with less nepotistic forms of social support may help to convince the 'average man' that there really are new opportunities for him and his children. Campaigns and legal action to raise the age at marriage may, in some societies, extend the period during which young people can be exposed to less traditional influences.²¹ And so far as birth control projects are

(19) Medicine played very little part in the reduction of mortality in the West during the 19th century. Its most direct effect—on small-pox accounted for only a relatively small proportion of the fall in death rates. In general, the fall occurred in response to rising levels of living and to improvements in water supply and sanitation. The former meant considerable individual involvement in the process and the latter was accompanied by great publicity. The official enquiries into the health of towns and the deficiencies of the water supply in 19th century Britain were widely reported and hotly debated. See T. McKeown and R. G. Record, 'Reasons for the decline of mortality in England and Wales during the Nineteenth Century', *Population Studies*, Nov. 1962.

(20) I am not in favour of campaigns for mass, irreversible sterilization. Even if they were successful, they would not promote a more general rationality of personal decision-making, just because they obviate the need to continue to make decisions on family size. At the same time, I very much doubt whether any government could afford, politically, actively to promote mass sterilization. If this were to be followed by some catastrophe—natural, like famine or epidemic, or unnatural, like war—the government would have to commit political suicide.

(21) In some societies, national service of a non-military type might offer a very valuable means of counteracting traditionalism, as well as providing direct assistance for needed projects.

concerned, it may be relevant during the next few years to increase the concentration upon the middle classes or on such other limited groups as have begun to show breaks with traditionalism and might be most likely to respond fairly soon. Equally, community projects might be more immediately useful if addressed particularly to couples who have had two or three children rather than to the generality of married people.²² Certainly each society needs a successful demonstration project which can incite emulation, and action programmes should be organised with that in mind. No less important, birth control campaigns and their sponsors should be linked much more closely with other measures designed to promote economic and social development. Greater involvement in general social action might add realism to birth control campaigns and help to convince the prospective clientele that efforts to persuade them to control their fertility are neither eccentric nor authoritarian but form an essential part of a well-founded programme to raise individual levels of living.

APPENDIX

The estimate of the ultimate incidence of birth control (proportions of married couples ever using birth control) among couples married in 1950-54 in Britain is derived from the stratified random sample survey undertaken by the Population Investigation Committee during December 1959-March 1960. The field work was carried out by Social Surveys (Gallup Poll) Ltd., to which organisation we are also greatly indebted for help in sample and questionnaire design and testing. The survey covered some 2,350 ever-married men and women and the proportions (among relatively recent cohorts) reporting that they were using or had used birth control are given below.

TABLE I

Marriage cohort (date of first marriage) incidence (%)

Men					
informants	72.5	71.5	79.0	80.6	81.9
Women					
informants	56.4	66.4	69.5	67.7	71.4

(22) This may promote conflict between generations, but such conflict (so long as it can be contained) might well be advantageous. A few well-publicised examples of disagreement between the modernists and the traditionalists might do more good than the apparent (but ineffective) harmony on birth control policy.

The differences between the reports of male and female respondents are both consistent and very striking. Examination of the data showed that 'male methods' of birth control were less frequently reported by women than by men. It is possible that the more reticent women took the opportunity to interpret literally the question regarding the methods of birth control which they had used—denying that they had used any methods if it was their husbands who had used condoms or sheaths. It seemed at least very probable that the incidence based upon the reports of male respondents was more likely to be near the real incidence. This was confirmed by comparison with results of another survey, also undertaken by the Population Investigation Committee and directed by Dr. J. W. B. Douglas. This survey was based upon a group of women who had had their first baby in March 1946 and who had been followed and questioned frequently ever since that time. These women were asked similar questions on birth control and two (as nearly as possible) matching sub-samples were drawn from each of the surveys, covering women who had married in 1940-44 and who had had their first child in 1946. In the Douglas survey, the incidence of birth control ('ever used') was reported at 84.6 per cent as the minimum level, with the real level possibly being five points higher. In the Pierce-Rowntree survey, however, the reported incidence in the similar group was 74.4 per cent. This again confirmed that, in using the results of the latter survey, the incidence as reported by men was likely to be nearer the true figure.

Beginning, then, with the male responses recorded in Table I, it was necessary to estimate to what extent the incidence among the more recent cohorts would be likely to increase with increasing duration of married life. For this purpose, Mrs. R. Pierce analysed the data by segments of married life and these data have been summarised in Table 2 in terms of the percentages of married men who have never used birth control by the specified duration of marriage. Column (a) shows these percentages—that is, for example, 30.1% of men married in 1930-39 had not used birth control after 15 years of married life. Column (b) gives the ratio of the incidence at a specified duration to the incidence at the previous duration. For the more recent durations, of course, the exposure is correspondingly more limited. The ultimate incidence for the most recent cohort has therefore been 'estimated' or 'projected' on the assumption that with every additional five years of marriage, the incidence of 'never-use' will be reduced by the ratio given in the nearest cohort for which the data are available. The assumed ratios are given in parentheses in column (b) for the 1950-54 cohort and their appli-

cation results in an estimated ultimate incidence of 13.2 per cent 'never-use'. That is, by 20 years duration of marriage. 86.8 per cent of the men will have had recourse to birth control.

This estimate says nothing, of course, about the persistence or efficiency with which birth control will have been used, or in relation to what family size 'targets'. But information on some of those questions can be obtained from other sections of the surveys. And if it were practicable to repeat such surveys fairly frequently—say, every five years—it would be possible to probe far more deeply; to test methods of questioning which might yield more immediately reliable data; to enquire more explicitly into the factors which influence communication on birth control; to validate estimates of ultimate incidence of contraception; and to examine the ways in which family size 'targets' change within and between marriage cohorts. To carry out such repeat studies would require larger funds than the Population Investigation Committee has so far been able to command. Perhaps in future the birth control movements in developed societies can be persuaded to provide greater financial assistance for studies of this kind, which should supply information of considerable value for their own practical purposes.

TABLE II

*Proportions (%) by man who had not used birth control by
Specified Marriage Duration: Great Britain*

Marriage Cohort

Marriage duration (years)	1930-39		1940-44		1945-49		1950-54	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
At 5 years	39.3	...	32.4	...	28.0	...	22.1	...
10 years	33.2	0.845	23.5	0.725	20.0	0.714	(15.8)	(0.714)
15 years	30.1	0.907	21.0	0.894	...	...	(14.1)	(0.894)
20 years	28.1	0.934	...	...	...	...	(13.2)	(0.934)

WHAT ARE THE FACTORS IN LATIN AMERICAN CULTURE THAT MIGHT STIMULATE OR DISCOURAGE FERTILITY CONTROL ?

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It is a great privilege for me to have the honour of addressing this outstanding and enlightened audience. I have been asked to talk on "What are the Factors in Latin American Culture that might stimulate or discourage Fertility Control". This is one of the most complex and neglected subjects, just beginning to be explored by scientific research.

Cultural Differences Among Latin American Countries

Although our efforts should be toward the discovery of similarities rather than differences among societies, so that we can develop a universal understanding and a common ground for working with cross-cultures, I mention cultural differences to point out the complexity of the subject. Of course, exceptions must be made for each country in any general statement.

There is a general tendency to talk about the Latin American countries as if they were a homogeneous group of people, despite the fact that there are a variety of groups whose ethnic backgrounds, outlooks of life, senses of values, alliances and even languages differ from one another. There are as many cultural and geographical differences between and within the 20 Latin American countries and Puerto Rico themselves as there are among the Asian, European and African countries.

However, there are among them biological and cultural similarities which identify them with one another, distinguish them from other groups of nations and unite them as one group of nations called Latin America or Indo-America. The Spanish, Portuguese and French settlers found a variety of cultures among the Indians, from the most primitive cannibal tribes to the very advanced civilizations of the Maya and the Inca Empires, which rank among the oldest world civilizations.

Where the aborigines were few and culturally weak, they have practically disappeared. In Argentina, Chile and Uruguay most of the population is of European racial and cultural background with a few

"mestizos" (mixture of Spanish and Indian) and very small Indian communities.

In Mexico, Guatemala, Ecuador, Peru, Bolivia and Paraguay where the Indian population was large and highly civilized, it still constitutes a broad segment of the population, and its cultural impact is reflected in all phases of the life of these countries. The mestizo is the predominant group in most of these countries. Dr. J. Mayone Stycos in his studies on "Culture and Differential Fertility in Peru" has found fertility differences among the Spanish, Mestizo and Indian women. The Spanish in rural areas showed the highest fertility rates and the Indians in urban areas showed the lowest fertility rate.¹

The studies of Dr. Frank Lorimer in Brazil showed that the high birth rate of Brazil is almost the same among the whites, mestizos and negros. He, also, found that the fertility patterns of the immigrant groups were highly influenced by the Brazilian environment and that their birth rate became as high as that of other groups.²

There are many isolated villages where the ancient cultural traits prevail unchanged, where the Indians do not speak the national language of their country, but speak only their own local dialects.

Old Cultural Patterns

Some of the medieval cultural patterns of the Spanish, Portuguese and French settlers intertwined with some of Indian cultural traits were the fundamental basis on which the general culture of most of the Latin American countries was established.

The influence of subsequent migrant groups from all over the world and the internal and external forces have been slowly making changes, but the feudal or semi-feudal, agrarian, socio-economic structure with its rigid, two-class system still resists change.

The wealthy, land-owning, urban oriented, minority group has been unaware of the attitudes, beliefs and conditions of the great majority of people, judging them by their own standards. Church power and interest have been closely tied with the minority ruling group.

1 Dr. J. Mayone Stycos *Culture and Differential Fertility in Peru*, Cornell University, 1962.

2 Frank Lorimer and others. *Population and Culture. Culture and Human Fertility*, UNESCO publication.

The male has had absolute authority over the submissive female, and double moral standards have been the general practice. The male has had complete freedom of action in contrast with the rigid restrictions placed on the female.

Most of the married women, restricted in their social and intellectual contacts, have been primarily the administrators of the household. While men have taken pride in their love adventures and virility, women have taken pride in their loyalty and devotion to their husbands and children. Single women have had to be protected because virginity has been the first requirement for marriage. Among women modesty, shame and ignorance of sex matters have been a highly appreciated virtue. Men, while being very protective of their wives, daughters and close female relatives, have taken advantages of women from the lower social scale. The result of this double moral standard has been that while women of the higher socio-economic classes have been expected to live up to all the restrictions imposed on them, those from the lower classes have been the victims of the male sex privileges.

Marriage has been socially required for the upper economic groups; but consensual unions have become a general practice among many of the lower income groups. Some of the common-law marriages are of permanent nature. However, in most cases they are unstable and the mothers assume responsibility for raising their children.

The illegitimate birth rate is very high. In some countries it is as high as 70% or more.

Birth control methods have always been used by some of the upper economic groups which have had access to information and have been able to afford them either within their own countries or abroad, but for the lower economic groups the only method known has been criminal abortion.

Abortion

Although abortion is illegal in all the Latin American countries, the abortion rate is growing in alarming proportions in all of these countries. This is one of the reasons why a few doctors, nurses and social workers, working in public hospitals, health and welfare centers are beginning to think that contraception should be provided to prevent the need for abortions.

Several studies on criminal abortion have been published in medical journals and a few resolutions have been approved by Gynaecologic and

Obstetric Congresses requesting governments to include contraception in public health programs.

A study carried out in Santiago, Chile, by Dr. Tegualda Monreal, showed 734 abortions in a total of 580 women interviewed. The number of abortions per patient ranged from 3 to 7. Most of the women were married, and the main reason given for their abortions was economic. The estimate of this same study is that about 60,000 abortions are performed annually in Santiago, Chile.³

The findings of these studies are stimulating a few of the professionals in health and welfare agencies to think that contraception should be provided as a preventive abortion measure. The problem is how to do so without endangering their positions.

How Effective is the Roman Catholic Church in Preventing Fertility Control ?

Religion has different meanings and effects at different educational and social levels and with different religious experience. There are a great many Latin Americans in all social classes, including physicians, who firmly adhere to Catholic principles, who never would practise contraceptive methods not approved by their religion. There are others who attend religious services regularly more for social than religious reasons, and there is a great majority who are not exposed to the Church's teachings, either due to religious indifference or because there are no priests in their communities. "The Latin American Region is already 100,000 clergy short of the number required to provide religious services numerically comparable to the prevailing standards in the U.S., England and Ireland."⁴

A survey in Puerto Rico showed that about 70% of the adult women and 80% of the adult males never attended church services or attended only occasionally.⁵

In general, Latin Americans, especially males, do not take religion too seriously in matters affecting their private affairs.

The Catholic Church's strong political, cultural, social, economic

3. Dra. Tegualda Monreal : *El Aborto Provocado : Sintesis Bibliografica Reciente*, Colegio Medico de Chile, *Cuadernos Medico-Sociales*, Vol. II No. 2, Santiago Chile, Dic. 1961.

4. William J. Gibbons, *the Interrelations of Demography, Economic and Social Problems in Selected Underdeveloped Areas*, New York, *Milbank Memorial Fund*, 1954

5. Hatt Paul K., *Backgrounds of Human Fertility in Puerto Rico*, Princeton University Press, Princeton, 1952.

and international power is more effective in controlling the policy-making elite than in controlling the great majority of people. It has been successful in maintaining the traditional restrictions on fertility control in national and international policies. Its power is obvious in the reluctance of national governments and of the UN and all its specialized organizations to include birth control in their policies on health, socio-economic and cultural programs.

The Church also uses all kinds of pressures on the mass-media and educational institutions to prevent dissemination of scientific information on sex and contraception. With one or two exceptions, Latin American medical schools do not teach contraceptive techniques, and sex education is a forbidden subject in public schools. Large families are encouraged by all kinds of rewards. In Argentina, the President of the country is the Godfather of the seventh consecutive boy in every family.

The century old slogan of Juan Baustista Alverdi, Argentina's statesman, is quoted in all the Latin American countries: "Gobernar es Poblar" (The responsibility of a Governor is to increase the population of his country).

Most of the demographers and policy-making officials with few exceptions, hold the thesis that population control in Latin America means national suicide, that what is needed is proper economic and social measures to meet the needs of the growing population. However, many of these same people, in private, would agree that individual couples have the right to control their families for health and economic reasons.

In a great many cases the politicians, land-owning aristocrats, professional groups and especially medical doctors from the higher economic brackets, do not take leadership in promoting any birth control program for fear of endangering their positions by pressures of the Church, not because of their loyalty to the Catholic doctrine.

The findings of studies carried out in Puerto Rico, Jamaica, Chile and Mexico prove that the official doctrine of the Church in regard to birth control does not correspond with the private attitudes, beliefs and behaviour of most of the practising Catholics in Latin America.

A survey of the attitudes of Puerto Rican women who did not use contraceptives⁶ showed the following reasons:

Clarence Senior, "Women, Democracy and Brith Control", *The Humanist*, American Humanist Association, Yellow Spring, Ohio.

Ignorance of their existence	..	..	24.4%
Husbands' objections	..	..	24.4%
Fear that use of various devices would cause cancer or other illness	..	..	7.2%
Religious scruples	..	..	4.3%
Wish to have more children	..	..	6.8%
Too much trouble	..	..	1.6%
Don't think that it works	..	..	1.3%
They are used only on bad women	..	..	1.0%
Cost too much	..	..	0.6%
Other reasons	..	..	27.9%

Other studies in Puerto Rico by Dr. Stycos and his associates found that the attitudes and behaviour of the majority of those interviewed were in favour of using birth control methods not approved by the Catholic Church.⁷

A similar study by Dr. Stycos on the Catholic Population in Jamaica showed the same attitudes and behaviour as found in Puerto Rico.

Studies in Santiago, Chile, by Leon Tabath and Raul Samuel showed that 70% of the total of 1,997 women interviewed approved medical birth control services, despite the fact that 41% indicated that they attended religious services at least once a week and 80% said that their thinking was dominated by religious thoughts.⁸

Brief Review of Church Pressure in Puerto Rico to Stop the Population Control Movement

After 37 years of continuous struggle with the Church, Puerto Rico has established one of the most extensive publicly and privately sponsored birth control programs. It is the only Catholic country to have done so. The Church and its strong supporters have used the following schemes to undermine the birth control programs:

- (1) Pastoral letters have been read in every Church condemning birth control practices as an immoral and sinful act. The results have been contrary to those expected by Church officials. Many persons who have learned for the first time that some-

7. Reuben Hill, J. Mayone Stycos and Kurt Back, "Contraception and Catholicism in Puerto Rico" *The Milbank Memorial Fund Quarterly*, April 1956, Vol. 2.

8. Leon Tabath and Raul Samuel: *Demografia y Salud: Encuesta de Fecundidad y Actitudes Relativas a la Formacion de la Familia: Resultados Preliminares*. Colegio Medico de Chile, *Cuadernos Medico Sociales* Vol. No. 2, Santiago, Chile, Dec. 1961.

thing can be done to control their fertility, have been stimulated to do so.

- (2) Political pressure on the Government, especially at election time. At the last election in 1960 the voters were threatened with ex-communication if they voted for the Governor who advocated birth control. The Governor was elected by an overwhelming majority.
- (3) Continuous direct and indirect persuasion of top government officials.
- (4) Organization of their professional adherents in Catholic guilds such as the Catholic Medical Guild, etc.
- (5) Establishment of a Catholic University, many high schools and other educational institutions.
- (6) Systematic attacks on the birth control movement and its leaders through the mass-media.

But despite all these pressures, there are many indications that the trend in Puerto Rico is toward the small family ideal and the acceptance of birth control methods condemned by the Church.

The experience of Puerto Rico is invaluable to Catholic countries which are starting family planning activities. However, there is a general assumption that the success of the Puerto Rican birth control program is due, in great part, to overcrowded conditions on the island and the influence of the United States, and that it cannot happen in other Latin American countries where the situation is completely different. However, the findings in the previously mentioned studies in Chile, Mexico, Jamaica, Peru and Haiti, are demonstrating that the Church is powerless to control the people's need and desire to control their fertility when they know that means are available. What is needed in other countries is the kind of dynamic leadership and resources available in Puerto Rico.

Social Changes That Might Stimulate Fertility Control in Latin America

Cultural patterns are modified accordingly with the socio-economic changes of societies. In the last 30 years, dramatic changes have been taking place at different degrees and speeds in most of the Latin American countries in the areas of population, social and economic structures, politics, religion, education and the role of women in society.

The dramatic population growth in the Latin American countries with the exception of Argentina, Chile and Uruguay is creating amazing

transformations. According to UN estimates, the present 200 million population will triple to 600 millions before the end of this century.

There is a trend toward great internal migration from the rural areas to the already overcrowded cities.

The traditional feudal, rigid, two-class system of a land-owning aristocracy and a lower class of peasants and domestic servants is beginning to break down by the growing influence of the new middle class composed of businessmen, professionals, industrial and white and blue collar workers. Industrialization, the main objective of most policy-making people, is developing at an astonishing speed in large countries like Brazil and Mexico and even in smaller countries.

The historically unchallenged power of the Catholic Church is beginning to weaken. Its power has not disappeared, but it no longer completely dominates public opinion and action in many countries and in many areas of those countries. In 11 of the 20 Latin American countries and Puerto Rico, the Church and State are officially separated: Brazil, Chile, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama and Uruguay.

Constitutionally there is freedom of religion in all the Latin American countries, but Catholicism predominates and in the Dominican Republic and Colombia there are concordates with the Vatican.

Of course, the Catholic Church is using all means possible to maintain its former position. Catholic universities and high schools are being established in all the countries. However, at the same time, many Protestant sects and spiritual cults are finding their ways in most of the countries, especially among the lower income groups. All these forces are working toward separating some of the middle class groups from the influence of the Catholic Church.

Changes in Social and Cultural Patterns

These social changes are slowly but surely breaking down many of the old cultural patterns that have been barriers against fertility control. Both the Chilean and the Mexican studies show that the number of children decreases as the economic status of the families improves.

Perhaps one of the most influential factors in changing the attitudes and behaviour of women in regard to birth control is their new role in society. Recognition of their political and civil rights in all the Latin American countries has opened opportunities for their increasing participation in the political, social, economic and cultural life of their com-

munities. Their new responsibilities and economic pressures are demanding the limitation of their families.

But family planning practice depends not only on the attitudes of the people and their readiness to use contraceptive methods but on the availability of these methods. Hundreds of letters addressed to the I.P.P.F. offices from different corners of Latin America requesting birth control information are evidence that the desire for family planning can be frustrated when there is no information or facilities available.

Summary

- (1) The scope of the complexity of a Latin American fertility control movement cannot be understood without recognition of the cultural differences among the 20 countries' diverse social groups and their implications in the establishment of local programs.
- (2) The double moral standards, extreme poverty, ignorance and social injustice have been contributing factors to the high birth rate.
- (3) The concern of few professional groups about the increasing abortion rate is turning their attention to the use of contraception as a preventive abortion measure.
- (4) Most of the research studies in fertility control have been among the lower income groups. The attitudes and behaviours of the upper economic groups have been almost entirely ignored despite the fact that these are the people concerned with developing national and international policies.
- (5) The Church has used its political, socio-economic and cultural power and pressures to control national and international policies for fertility control.
- (6) In most cases, the reluctance of policy-making people to participate in or promote birth control movements in their countries has been due to fear of endangering their positions rather than adherence to Church doctrines.
- (7) Most demographers and policy-making people consider population control national suicide. Their feeling is that general economic, social and educational improvements along with industrialization will take care of the population increase.

- (8) The Church has very little influence in the daily life of the lower classes. Church attendance is rare, consensual unions are the general practice and all kinds of superstitious practices opposed by the Church are customary.
- (9) The strongest barrier against birth control practice is not adherence to Church doctrines but ignorance about contraception and lack of availability of contraceptives.
- (10) Demographic, social and economic structures, religious and cultural changes taking place in most Latin American countries are bringing about changes in customs, values, attitudes and institutions that might stimulate fertility control.

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SURVEY OF FAMILY PLANNING CLINICS IN GREATER BOMBAY

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Introduction

The national programme in family planning was launched by the Indian Government in the First Five Year Plan about ten years ago, and each succeeding Five Year Plan has given high priority to this programme and has provided substantial budget for its implementation. During the course of these ten years, action along many fronts has been recommended by the Central Government in consultation with advisory bodies; and State Governments, with substantial financial assistance from the Central Government, have taken up the task of developing their programmes to suit their conditions and requirements. Voluntary agencies, which played an important role in focussing the attention of the Government to the need for a national family planning programme, participate in it and cooperate in the provision of family planning services and in the education of the public in family planning.

In spite of the concerted effort that has gone into the setting up of the national family planning programme, the absence of a significant effect on birth rate has begun to cause concern. The 1961 Census placed India's population size at 439.2 million and revealed an average annual rate of increase of population of 1.95 per cent during the decade 1951 to 1961. Such a fast rate of increase is not indicative of a substantial reduction in the birth rate of India's population. Further, most of the planned trials set up to popularise family planning in the rural areas, where over 80 per cent of India's population lives, has failed to produce dramatic changes in the birth rate. While the resistance of the birth rate to a sudden decline can be easily understood in the light of the part played by custom and tradition in determining the levels of fertility, the need is urgent for a concurrent evaluation of the major policies and plans of action of the family planning programme as they begin to be implemented. Such an evaluation will help to understand the several factors which can assist in the acceptance or effective utilisation of family planning advice by large sections of the population. Careful evaluation, especially in the earlier stages of the programme, will avoid wasteful effort and ensure the development of a sound and effective policy based on actual experience.

The Demographic Training and Research Centre, Bombay, and other centres in India have been keenly interested in problems associated

with the evaluation of ongoing programmes, as well as in the assessment of the hypothetical effect of possible future programmes on birth rate based on model studies. In particular, the Bombay Centre has carried out in collaboration with the Family Planning Association of India and the Family Planning Training and Research Centre, Bombay, a comprehensive survey of the functioning and achievements of family planning clinics run under public auspices in Greater Bombay. This paper will be primarily confined to the presentation of the findings of this survey.¹ It is hoped that the facts learnt and impressions gained from this survey, and from other research activities in the country will permit a clearer understanding of the problems related to the formulation of the plan of action and the procedures to be followed in the future development of the national family planning programme.

Characteristics of the population of Greater Bombay

As a preliminary to a discussion of the survey of family planning clinics in Greater Bombay, the characteristics of the population of this metropolis are presented. The population of Greater Bombay, 4.15 million according to the 1961 Census,² is cosmopolitan and drawn from almost all parts of India. According to this Census about 63.5 per cent of the residents were born outside of Greater Bombay. The tempo of immigration into the metropolitan area is shown by the fact that 29 per cent of the population had migrated into the City during the decade 1951 to 1961. Of the total migrants 59 per cent had moved in from the rural areas and of the remaining the majority had probably lived in small towns before moving into the metropolis. About 50 per cent of the males over 15 years of age were reported as illiterate or as having attended only the primary school and about 30 per cent of the male workers were in white-collared professions. The population of Greater Bombay can, therefore, be described as composed of a high proportion of migrant population exposed to urban conditions for a relatively short period and engaged largely in manual occupations.

Survey Procedures

Clinic programmes have formed a most significant part of the total family planning programme in the country both in urban and rural areas. Although the role played by clinics may undergo a change as

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- (1) The data of this survey are still under analysis and a comprehensive report is under preparation. The findings presented in this paper will be of a general nature and will avoid highly technical discussions related to the interpretation of the data.
 - (2) The data of the 1961 Census of Greater Bombay presented here should be considered tentative as they may undergo revision before they are published by the Superintendent of Census Operations, Maharashtra State. We are grateful to him for allowing us to make use of the preliminary figures.

this programme develops, the clinics at present have been construed as the main agency for disseminating information on family planning to the public and providing contraceptive methods. The clinics in Greater Bombay were set up essentially with these points in view.

The Survey of Family Planning Clinics in Greater Bombay was initiated in 1960 and covered all the 53 clinics run under public auspices and which were in operation for six months or longer at the time of the Survey. Twenty-nine of these clinics were run by the Municipal Corporation, five by the Family Planning Association of India, twelve by other voluntary agencies, and the remaining seven were under the Central Government.

The survey was divided into the following three stages:

Stage 1

Each of the 53 clinics was surveyed with the object of obtaining detailed information about its set up and operations such as sponsorship, physical and staff facilities, clinic procedures and extent and volume of services provided. An attempt was also made at the same time to ascertain from the staff—doctor, health visitor or social worker—their opinions about the clinic operation and their suggestions for improving various phases of the work.

Stage 2

From the clinics surveyed in Stage 1, a two stage sampling procedure—selection first of ten clinics and a further selection of case history cards from each of these clinics—was used for selecting case history cards for detailed study. The information to be abstracted and entered on to a prepared code sheet was to include such details as social and economic characteristics of the client and her husband, pregnancy history, reactions to and use of method advised and occurrence of pregnancies after receiving advice. In this stage, data from 3,721 case history cards were abstracted.

Stage 3

All the women who registered for the first time in 1959 at the clinics selected for Stage 2 and for whom information was abstracted from case history cards were visited in their homes by field investigators. Information as to how women were motivated to visit family planning clinics, their reactions to the services and methods offered, their use and the effectiveness of the method advised was elicited by interviews. At this stage of the survey 363 women were interviewed.³

(3) 575 women were eligible for interview but 212 could not be contacted for the following reasons: information about address found to be inadequate (73), women residing outside Greater Bombay (30), shifted to new unknown address (24), left Bombay or temporarily away (77), women dead or widowed, or other reasons (8). The women who were interviewed had characteristics similar to those who were not.

Survey Findings

Of the 53 clinics surveyed, the two that were longest in operation had been opened in 1947, and it was during and after 1952 that clinics became more numerous in Greater Bombay. Some amount of informal collaboration has existed between the different organizations sponsoring clinics, but to a very large extent the location and manner of setting up of clinics had been determined by the programmes of the different organizations and the facilities that were available. The Municipal clinics were located in maternity homes, hospitals or dispensaries run by the Municipal Corporations both as a matter of policy and convenience. Voluntary organizations including the Family Planning Association of India had often to open clinics in places where accommodation could be easily obtained. They were sometimes located in places similar to those of Municipal clinics but were at times associated with welfare centres or worked independently. In spite of the apparent unplanned growth in the location of clinics, it was found that the clinics were fairly evenly distributed in all communities in Greater Bombay.

As judged from the number of new cases enrolled in all the clinics surveyed, about five per cent of the married female population in the reproductive age group had visited a family planning clinic. The median age at enrolment of the women who attended the clinics was 27 years and the average number of children born to them before enrolment was 3.7. The clientele was by and large representative of the Bombay population when reckoned with respect to the age of the woman at first clinic visit or family income.⁴ Women in the age group 20 to 34 years were over-represented in the clinics while those in the age groups 15 to 19, and 35 to 44 were under-represented. With regard to family income, the proportion attending clinics from the lower income-groups was somewhat higher than that from the higher income groups in the general population.

The rate of new admissions to clinics was studied on the experience of those clinics that were classified as "regular". Since the Government clinics were intended for special purposes such as training, research or serving select populations, they were not considered as "regular" clinics for purposes of this analysis. Nine clinics offered family planning incidentally along with other services such as maternal welfare or general outpatient medical care, and did not set aside a separate time for advice on family planning. Excluding these clinics

(4) Information on the distribution of family income in Bombay households was provided by the Report of the Economic Survey of Greater Bombay: Department of Economics, University of Bombay, 1959

also, the number of family planning clinics assumed as "regular" clinics was thirty-seven.

On the basis of the number of new admissions enrolled in 1959, the case load varied from 1 new case per 36 minutes the clinic was open to 1 per 14 hours the clinic was open. Taking all clinics together, the modal value for the rate of admission was one new case enrolled for every 1 hour and 40 minutes a clinic was open. The lowest case loads recorded were by two clinics which were open for two hours a week with two sessions of one hour each held in the evening. Among the other clinics, the sessions were usually of two hours and were held for two days in the week in the forenoon or afternoon. The survey showed that by keeping clinics open for longer than four hours per week or by having more than two sessions per week, the number of new cases enrolled per year could be increased, although the rate of admission of new cases per hour the clinic was open might decline. In most clinics the case load became stabilized after a few years of operation whatever be the rate at which new admissions were made.

It was of interest to know how women were drawn to the clinics. The case card as well as the personal interview of Stage 3 of this study provided information on this topic and gave essentially similar findings. The most frequent source of referral was medical or para medical—doctor or health visitor. Referral to the clinics by such persons could have been made when the woman was visited in the home by the clinic staff or when she attended a maternity home, hospital, clinic or dispensary. The relatively lesser role played by friends or relatives was significant. Mass media, such as sign board, printed publicity or mass meetings were infrequently mentioned as the source for drawing the women to the clinics. Women with higher education or better economic status reported mass-media as the source of information more frequently than those with poor education or low economic status.

Sixty-four per cent of the women reported that they had visited the clinic within fifteen days of hearing about it or "within six weeks after termination of a pregnancy". The latter group comprised women who had come to know about the clinic for the first time during the pregnancy or puerperium. In 21 per cent of the cases the visit was delayed by at least six months after knowing about the clinic. A third of all the women who had not visited the clinic within fifteen days after knowing about it or "within six weeks after termination of a pregnancy" gave reasons which indicated that they did not have immediate need for going to the clinic, either because they were using some contraceptive method or had not resumed coitus after the termination

of their last pregnancy or desired additional children. Other reasons given for not reporting to the clinic immediately were inconvenience, misunderstanding (should report only after return of menstruation), laziness or indifference.

The large majority of the women had discussions with others before deciding to go to the clinic, as only 14 per cent had replied in the negative to the question, "Did you talk with anyone before you decided to seek help from the clinic?" Seventy-eight per cent had discussions with their husbands; other relatives were rarely mentioned. Friends figured next in importance to husbands in helping the women to make up their minds to go to the clinics.

As indicated above, the talk with the husband before going to the clinic was the rule rather than the exception. The response as to what was talked about or how this talk occurred did not support the view that the husband was the deciding authority in these matters. The responses showed that in general the women were interested to inform the husband of what they had learned about family planning from the doctor, health visitor, social worker, friend or from other sources and decide on a joint course of action. In not more than 20 per cent of the cases was there any suggestion that the purpose of the discussion was wholly to seek the husband's permission. It should, however, be borne in mind that we are dealing here with a group of women who had actually attended the clinic. It is likely that the husband and wife were more communicative in this group than in the general population.

It was seldom (24 out of 363 cases interviewed) that the husband did not know of the woman's first visit to the clinic. Even among these 24, there were instances where the husband's lack of knowledge was because the family planning method had been prescribed to the woman when she visited the institution in which the clinic was located for other purposes, such as child's illness.

The method most often advised in the Bombay clinics was diaphragm and jelly. In about half of the clinics this was the only method that was offered. Even if other methods were available there was a tendency in the clinics to prescribe the diaphragm and jelly method. Of the 363 women interviewed for Stage 3 of the survey, 21 were not prescribed any method for various reasons, 6 refused to accept a method and 5 did not give adequate information on the method received. The strong bias towards diaphragm and jelly can be seen from the fact that 265 out of the remaining 331 women had been prescribed this method at their first visit. Of the other methods advised (66 cases) condom was recommended in 42 cases, foam tablets in 19 and jelly alone in 5 cases.

The routine followed with regard to check-up and subsequent visits to the clinic was about the same in all Bombay clinics, primarily because the method most often advised was the diaphragm and jelly. Women were advised to return to the clinic within a few days after the method was prescribed, for the check-up visit. With regard to subsequent visits, women were asked to return when supplies ran out or whenever they felt it necessary to seek guidance. In the entire experience of the Bombay clinics as seen from the case cards, 40.8 per cent of the women came for check-up visit (within 30 days of the first clinic visit) and the remaining 59.2 per cent did not. In regard to subsequent visits, 43.4 per cent returned at least once to the clinic after 30 days but within twelve months of receiving a method, while the remaining 56.6 per cent did not make even one subsequent visit. The percentage of the women who went for check-up and made at least one subsequent visit was 24.4, while 40.1 per cent did not return to the clinics at all within the first year of receipt of a method.

The personal interview with the women in Stage 3 of the survey had gone into great depth to ascertain the factors that might have influenced the non-return for check-up or subsequent visits. The discussion below refers to women who received diaphragm and jelly at the first visit. Three factors—distance of the clinic from the home, waiting time at the clinic, and being seen by others in the clinic—were found to influence the check-up visit. Women who felt that the clinic was quite near or did not have to wait long or did not feel shy at being seen by others in the clinic returned more frequently for the check-up visit than those who held opposite views. A similar pattern was also observed with respect to return for subsequent visit. With very few exceptions, the women were extremely satisfied with the clinic staff and services provided, and had little to complain of the facilities provided by the clinic for waiting, interviewing and examination and, therefore, these factors could not have influenced seriously check-up or subsequent visits.

The association of a number of social and economic factors with the woman's return for check-up visit were studied and the only ones which were found of significance were the age of the husband and of the wife. Among women aged 35 years and over, 38.2 per cent returned for check-up visit as compared with 60.6 per cent for women aged below 35 years. Similar differences were found among women whose husbands were of age 40 years or above, or less than 40 years. As in the case of check-up visit, the age of husband and of wife was also found to be associated with return for subsequent visits. In contrast to what was found in the case of check-up visit, education of husband and education of wife were

found to influence return for subsequent visit, the percentage returning for subsequent visit increasing with educational status. Whereas the nature of living quarters, especially the easy access to a water tap, latrine or bathroom, was not found to influence check-up visit, the availability of water facilities was found to affect subsequent visit. Among those who had this facility inside the living quarters, 56.6 per cent had gone for a subsequent visit while 42.4 per cent had gone among those who had it inside the building they were occupying (but not within the living quarters) and 30.8 per cent had gone among those who had it only outside the building.

An important finding of this survey, though not unexpected, was that women who had not made use of the method advised at the first clinic visit to any considerable degree returned less frequently for check-up visits than those who used the method. The non-return for check-up visit, especially when the diaphragm and jelly method is prescribed should, therefore, be a useful guide to identify women who might have problems in the use of this method.

The 265 women, who had been prescribed the diaphragm and jelly method, were classified into five groups according to the extent to which they had made use of the method. The number of women falling into each of these five groups is indicated below:

	Number of cases	Per cent
(a) Women who had not given trial to the method	48	18.1
(b) Women who used the method once or twice only	20	7.5
(c) Women who used the method three or more times and had then given it up	54	20.4
(d) Women who used the method three or more times but were not using the method at the time of the survey as protection was not required at that time (future use uncertain)	41	15.5
(e) Women who were still using the method at the time of the survey	102	38.5
	265	100.0

The 143 women in groups (d) and (e) or 54 per cent of those who had been given diaphragm and jelly can be said to have adopted this method. The remaining 46 per cent was made up of 18.1 per cent who had not given trial to the method, 7.5 per cent who had given trial but had not accepted it, and 20.4 per cent who had accepted the method but had not adopted it.

The most frequent reason stated for not giving trial to the method was that "wife and or husband was not pleased with the method". The next important reason was "lack of understanding of how to use the method". Together, these formed 60 per cent of the reasons stated for not giving trial to the method. In regard to non-acceptance, "physical discomfort" was given as the reason in about 60 per cent of the cases. The majority of women who were classified as having accepted the method but not adopted it—group (c)—gave reasons which reflected on the method itself and included such responses as "physical discomfort" (31.5 per cent), "husband and/or wife did not like the method" (13.0 per cent), "inconvenient to use" (13.0 per cent) and "lack of privacy" (14.8 per cent).

Of the 265 women, 101 made use of other methods including sterilization after receiving diaphragm and jelly from the clinic. Of these, 69 were out of the 122 who had not adopted the diaphragm and jelly method—i.e., belonged to the groups (a), (b), and (c) listed above, while the remaining 32 were out of the 143 who had adopted the method. Whereas in the former case such use was instead of the diaphragm and jelly method, in the latter case it was along with or in addition to the diaphragm and jelly method. When other methods were used instead of diaphragm and jelly, condom was most often chosen, and sterilization ranked next. When other methods were used along with diaphragm and jelly, condom and rhythm were found to be most frequent.

Taking an overall view of the use of a method by the 265 women who were advised diaphragm and jelly at the first clinic visit, all except 53, i.e., 212 or 80 per cent, can be said to have either adopted this method or made a serious attempt to adopt some other method.

The findings of the Survey of Family Planning Clinics in Greater Bombay present many facts and impressions which can be taken into consideration in the future development of the national family planning programme in the country. The experience of these clinics, while it is reassuring with respect to the demand for the services offered, also points to the need for extensive modifications in their current modes of operation if the clinic programme is to be effective in making a marked dent on the national birth rate. The drawing power of the clinics as shown by the number of new cases enrolled per hour the clinic was open, was extremely low in some clinics and it is necessary to devise ways and means for stepping up new admissions if greater efficiency in this respect is to be assured.

The clinics in Greater Bombay have shown a strong bias towards prescribing the diaphragm and jelly method. This method had been

adopted by about 54 per cent of the women to whom it was recommended. About one half of the women who had not adopted the diaphragm and jelly method had felt the need for the use of other methods, pointing out the necessity for clinics to offer a multiplicity of methods to meet the requirements of different couples. About a quarter of the women who had adopted the diaphragm and jelly method, also wanted to use another method along with it. Our analysis of the effectiveness of the diaphragm and jelly method in reducing pregnancy rates has not proceeded to a stage to justify a definite statement concerning it, but it is apparent that it will be well below the 90 or 95 per cent level demonstrated for it in some Western communities. Model studies done at the Demographic Training and Research Centre have shown that a high degree of use-effectiveness is a prerequisite for effecting a marked reduction in the birth rate.

The most encouraging finding of the Survey is that women of all age groups and economic status living in Greater Bombay were drawn to the family planning clinics. As reported above, women in the age group 20 to 34 years were over-represented among those who attended the clinics. Women of lower income groups were also over-represented. Such a response is a definite indication that the desire for family planning has permeated through all the sections of the Greater Bombay population, and it is most essential that the family planning programme in this metropolis should be able to harness this wide-spread feeling in favour of family planning. Even under optimum conditions of working, the clinics can reasonably be expected to reach only a small fraction of the couples desirous of adopting family planning, and there is, therefore, need for developing a large scale programme which can cater to the needs of the population through an essentially non-clinical approach. The study in communication and motivation towards family planning which is being initiated at the Demographic Training and Research Centre, Bombay, may soon indicate the methods by which such a programme can be set up.

Greater Bombay, as is well known, is one of the premier cities in India and for this reason alone a favourable response to family planning programmes by its population may cause no surprise. Yet when it is realised that a sizeable fraction of the City's population, especially in the younger age groups, has become its residents only in the past decade or so, the repercussions, which the increasing tempo of rural-urban migration in the country may have on future birth rates, assume great importance. It is in this context that localised evaluation studies such as the one reported in this paper may have wider applications in understanding the prospects for fertility control in the country.

DEMOGRAPHIC, ECONOMIC AND SOCIAL FACTORS IN FERTILITY IN U.A.R.

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In our modern times the human being is the ultimate beneficiary of every improvement and all progress, and hence population studies have jumped very much to the foremost in the last few decades. These population or demographic studies are not merely concerned with man but also with his surroundings and all the factors that have direct or indirect effect on his welfare and prosperity. These factors are numerous and can generally be grouped under three main headings: demographic, economic and social. The most important demographic factors are reflected in the sex-age structure of the population; the economic factors are represented by the individual income, its level and source; and the social factors consist of education, customs, traditions and many other such things whose combined effect from what is usually known as culture.

The age-sex structure of the population has strong influence on the fertility of the population, and hence affects its rate of growth. A human being cannot remain productive all his life, and particularly a female has only a span of 30 to 35 years of fertility. Women can produce children only between the ages of 15 and 50 at the outside. Thus among the limiting factors to fertility in any population is the female ratio, possibilities of marriage of the females, life expectation of the married females and the average number of children each wife can produce during her fertile period.

The effect of various levels and sources of income on the human fertility is less obvious and less defined. However, it is a historical fact that the industrialisation of Europe in the nineteenth century has been accompanied by a large drop in the fertility rates of the industrialised countries. The causal relation between those two phenomena is not certain, but inspection of the situation in the countries of Africa, South East Asia and Latin America have led students of demography for many years to their warmly cherished slogan "Plenty of Poverty". It is noticed that as the economic situation improves families tend to become smaller. Apparently the rise in the level of living discourages people from having more than a very limited number of children, lest their level goes down again.

As for the social conditions, one of the most governing factors is the standing of woman in society. As woman gets more educated and occupies a higher position than simply being a female, she consciously or unconsciously resents endless production of children to the extent of impeding her enjoyment of the innocent pleasures of life.

In the U.A.R. all these factors lead to large sized families. Ours is a young population with about half of it in the age range 15.50. Since approximately half the population is females, it means that about a quarter of the population is females in the productive age. Our socio-economic conditions allow only a very minute ratio of these to remain unexposed to reproduction through being divorced, widowed, never married or married but sterile. If each of these females in the reproductive age produces one child on the average every four years before the termination of her fertile age, then the birth rate can go as high as 60 per thousand. Actually it has remained mostly in the range 40 to 45 per thousand in the last thirty years. Another reason for this high fertility may be early marriages. In the same period the death rate dropped from 27 to 17 per thousand. This meant an almost corresponding rise in the annual rate of natural increase. In fact this rate has come up to the level of 2.4% annually between the last two censuses of population instead of 1.8% between the two previous censuses.

The U.A.R. is a country with a comparatively low per capita income which, according to the observed relation between fertility and the economic level, leads also to the expectation of a high fertility rate. As a matter of fact, both social and economic factors work together in this direction. Since the country's economy has been depending for a long time mainly on agriculture, the majority of the people got used to believing that a child is more of an asset than a liability. A man living on farming, whether his own land or of someone else, feels that an extra hand is a help which means more income. This, of course, is a very limited and incomplete point of view which considers only one side of the picture. The other and, perhaps, more important side of the picture is concerned with the parents' responsibilities towards the child. The arrival of a new member in the family means an additional mouth to be fed, necessary expenses for education and health care, which entail some expenditure and worry to give the child his due and bring him up to be a good citizen. Looking at it in this perspective, a child is rightly found to be more of a liability than an asset.

The birth and death rates, however, in urban areas are markedly different from those in rural areas. This is mainly due to marked differences between the two sectors with regard to economic and social condi-

tions. Whereas in the country-side, where agriculture is the major economic activity, people find it favourable to have big families whose members would participate in various operations of farm management, with accelerated industrial development and urbanization, the hired labour prevails and the family size tends to diminish. However, due to under-registration of vital statistics in rural areas on the one hand and high incomplete pregnancy rates on the other, the birth rates appear to be higher in urban areas.

While the unpaid family workers are almost negligible in urban areas, especially in large cities where they represent only 3.5% of the economically active population, they are as numerous in the rural areas as to exceed one fifth of this category. The proportion of hired labour in urban Egypt is a little less than double the corresponding percentage in the rural area. Inevitably, self-employment is more prevalent in rural than in urban Egypt.

An overview of world economic patterns in 1961 raises some significant issues. The world Gross National Product (GNP) was 1,400 billion American dollars. The free developed nations account for almost two thirds of the GNP, but only one fifth of the 3 billion world population. At the other extreme, the underdeveloped countries account for 15 per cent of GNP and almost 60 per cent of the world population. The communist bloc occupies a middle position with 21 per cent of the world GNP and 33 per cent of the world population.

In the last ten years, since the revolution in July 1952, the U.A.R. has been developing rapidly. A better distribution of wealth and income was introduced which favourably affected the majority of the population who previously hardly enjoyed the bare subsistence level of income. More numerous and more remunerative opportunities of employment were provided which gave decent and human levels of living to a huge proportion of the population who simply led marginal lives previously.

Compulsory education is now possible for more than three quarters of the children between 6 and 12 years of age. This ratio is increasing continuously in spite of the high rate of increase in the population. More than a quarter of the children terminating the compulsory stage are given free education in the preparatory schools for three years. Half of those terminating the preparatory and secondary schools is limited to the best in the final examinations of the previous stages. This has been made possible by the allocation of much more generous budgets for education than previously. Through concentrated efforts huge numbers of teachers were trained and in the last few years new

schools were built at the average rate of two schools every three days. These are very justly distributed over all parts of the country. Even university education is now provided freely for those who prove good enough for it in the secondary school leaving examination. Needless to say that applies equally to both sexes.

Health services have also been receiving great attention from the government. Numerous new public hospitals and clinics have been established, and home service has been introduced or strengthened in many directions. The number of free beds in hospitals has been more than doubled. Over and above this increase in quantity, there has been a very strong improvement in the quality of the public sanitary care for the population.

The living conditions of that segment of the population with limited income have been further enhanced by the introduction of some housing schemes in big cities and smaller towns. A huge number of healthy economic buildings have been built in open areas to replace unhealthy slums in congested areas. The state has included in the Development Plan huge schemes for many more of these buildings. Projects are being prepared for gradually rebuilding the Egyptian villages to provide much healthier and more suitable dwellings for the rural sector of the population.

All this goes to show what strong measures the government of the U.A.R. is taking to improve quickly and effectively the social and economic conditions of the population. This is bound to lead, as it has already done partly, to a decrease in the death rate which leads in its turn to an increase in the rate of growth since the birth rate is showing no signs of decline. Yet it is hoped that this socio-economic improvement would lead to lower fertility rates, otherwise this accelerated population growth would beat the ends of all possible planning. At the present rate of increase, our population will double in less than thirty years which makes it very difficult to expect a satisfactory rise in the level of living of the individuals. It is true that every effort is being made now to double the national income in ten years, but a sizeable proportion of that needs to be spent by the government on supplying services necessary for the large numbers introduced every year. Even if this economic difficulty is overcome, there will remain a very serious difficulty which is reflected in the inability to supply every individual with satisfactory work. With this high rate of population increase, the annual entry in the labour market will be correspondingly high and it will be extremely unlikely to satisfy the strong human need of every citizen to be gainfully occupied.

The U.A.R. has a total area of one million square kilometres, of which an area of about 35,400 square kilometers only is inhabited. According to the 1960 census, the total population is about 26 million, giving an average density of population of about 740 persons per square kilometer, which is considered as one of the highest in the world. The majority of the population (62%) live in rural areas. However, the population has undergone rapid intensive urbanization during the last fifty years; the rural portion of the population has steadily decreased from 79% in 1917 to 76% in 1937, 70% in 1947 and to 69% in 1960.

It is evident from the results of the 1960 census that about 43% of the population falls under the age of 15 years. Another 6% are 60 years old and over. This means that about half the population is dependent on the other half as far as age alone is concerned. Of the other half, whose ages are between 15 and less than 60 years, 4 out of every 5 lie in the productive age group of 15-45. With this young age pattern of population it could be anticipated that the fertility potential will remain high for several years. On the other hand the population has not yet aged enough to cause any rise in the mortality rate to offset the effect of the rising fertility.

Fortunately, however, the small proportion of aged persons keeps the dependency load upon the productive category of the population within reasonable limits. It is known that an increase in the proportion of this group implies the development of certain economic and social services such as pension programs and health facilities, in order to save the living level of the population from deterioration.

Egypt has been primarily an agricultural country even from historical times. However, the area of cultivated land has increased very little as compared with population growth. Accordingly, the area of land per head has been steadily decreasing. The crop area, however, is a little less than double the cultivated area, but due to rapid increase in the population the area of crop per head has also been decreasing.

The crop production has increased during the same period at an annual average rate of only 1.3%. While the population increased by about 64% in the 23 years from 1937 to 1960, the crop production increased only by 33%, the animal production by 45%, food production by 43% and the total agricultural production by 36%.

To keep the level of living of the population constant, and avoid its decrease, the rate of increase of the real national income must at least

be as high as the rate of increase of the population. This means that in a country whose population is increasing annually at 3 per cent, its national income must increase annually at the same rate which necessitates expenditure up to 10 per cent of its national income merely to keep living levels from declining. In other words, people must contribute one out of ten working days, that is, pay a tithe. Thus, the level of living cannot be raised except by an investment over and above this ten per cent.

It is well realised by the highest authorities in the country that the strongest enemy of our efforts for development is our high fertility. The people have already been warned against that enemy and a strong movement to prepare them to combat it is being launched.

FAMILY PLANNING AND AGRICULTURAL MIGRANT WORKERS : A Case Study

Prepared By

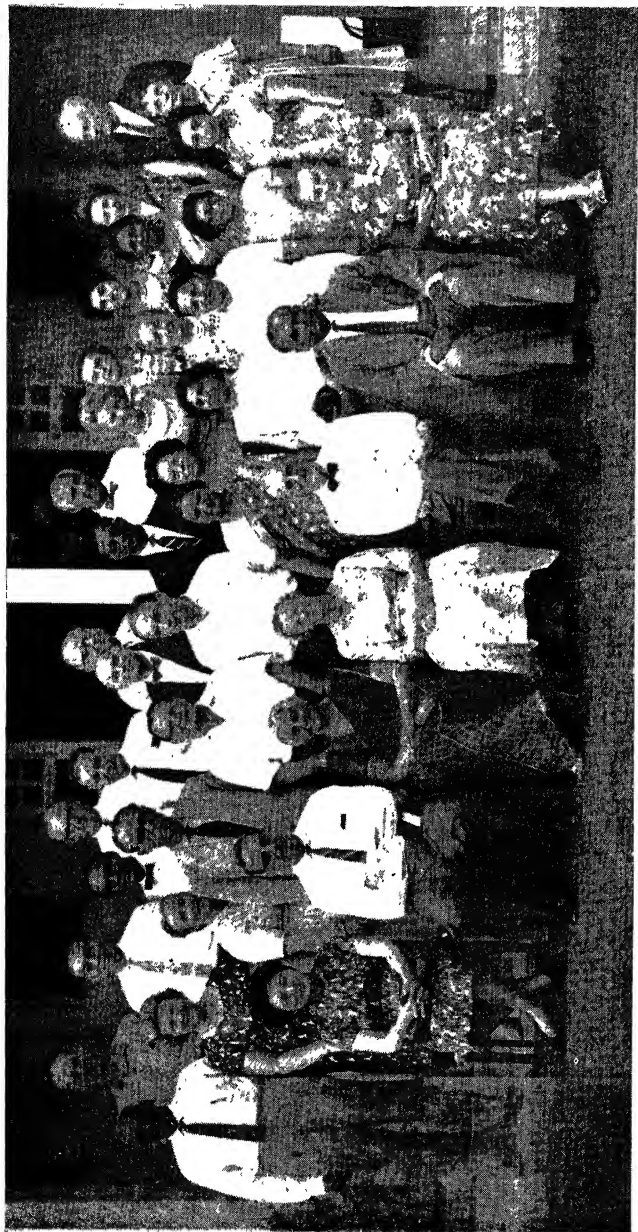
NAOMI THOMAS GRAY

(Field Director, PPFA-WPEC)

Introduction

From 1956 to 1961, PPFA-WPEC cooperated in a research project to develop methods and techniques for teaching preventive health care to a selected group of agricultural migrant workers. The funds were provided by the U.S. Children's Bureau and administered by the Florida State Health Department. The migrants were involved from the very beginning by getting them to identify and verbalize their own immediate health needs. Fortunately for Planned Parenthood, one of the first needs expressed by the women in particular was help in "stopping the babies". It was anticipated by the project staff that unless this need was met in the beginning, the project would be considerably slowed down. At this point PPFA-WPEC was called in for consultation. Even so, family planning services were not incorporated in the Children's Bureau project and had to be financed solely by state and local health department funds. The findings of the research project were of great help to Planned Parenthood in gaining insight and understanding of this group, and pointed to ways in which we would be more effective in our work.

I was assigned by the Federation to assist the health department in setting up its family planning program and I worked with a staff team consisting of two public health nurses; a health educator; a nutritionist; an environmental sanitarian; a medical social worker and a "liaison worker". The liaison worker's role will be described later in the report. Two weeks after my arrival in Florida, I was able to assist the staff with setting up procedures for integrating family planning into the ongoing maternal and child health services of the local health department. For five years I made yearly visits—of three to four weeks duration—to the project area and I lived in the migrant camps. This report, therefore, will reflect my own personal first-hand observation and experience and the findings of the research project. (Note: For anyone interested in knowing more about this specific project, a copy of the report "*On the Season*" by R. H. Browning and J. T. Northcutt, Jr., may be secured from the Florida State Board of Health, Jacksonville, Florida, U.S.A.).



Left to Right (Sitting) : Mrs. Goh Kok Kee (Singapore), Mr. Cadbury (Canada), Lady Rama Rau (India), Miss Ottesen Jensen (Sweden), Mr. Cass Canfield (USA), Dr. Karunaratne (Ceylon), Dr. Helena Wright (UK).

First Row : Dr. Sivaprasadam (Malaya), Lady Tewson (UK), Mrs. Barbara Cadbury (Canada), Dr. Bracker (UK), Dr. C. Van Ende Boas (Holland), Dr. L. I. Swaab (Holland), Mrs. Avabai B. Wadia (India), Dr. Maggie Lum (Singapore), Dr. Begum Manzur Qadir (Pakistan), Dr. Agniete Braestrup (Denmark), Begum Saeeda Waheed (Pakistan), Mrs. Rosalind Foo (Malaya), Mrs. Rose Lee (Hongkong).

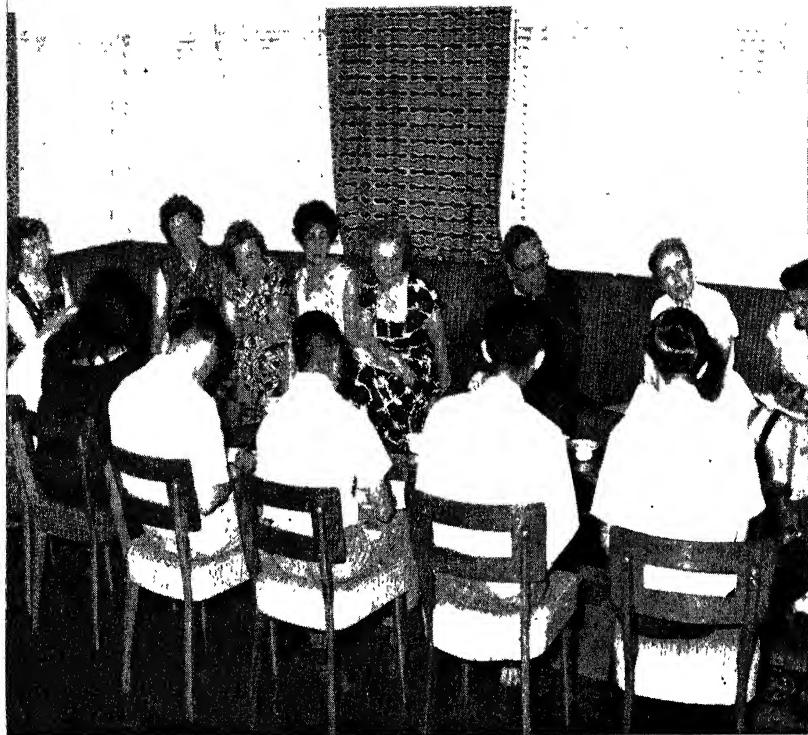
Second Row : Prof. Hans Harnsen (West Germany), Dr. Yang (S. Korea), Dr. Sodhy (Malaya), Mr. S. Swensrud (USA), Mr. Rufus Day (USA), Prof. Mehlan (East Germany), Mr. Tom Griesener (UK), Mr. Kabir (Pakistan), Dr. A. F. Guttmacher (USA), Mrs. Cass Canfield (USA), Mrs. F. Ferguson



Left to Right : Dr B. K. Anand, Lt -Col. B L Raina, Smt. Avabai B Wadia, Smt. Dhanvanthi Rama Rau



*Left to Right : Mr. Ndisi (Nairobi), Mrs. Goh Kok Kee (Singapore),
Dr. McAllen (Nairobi).*



An informal group discussion in progress.

Background of the Agricultural Migrant Situation in the United States

An agricultural migrant is one who performs short-term farm work by moving from one job to another during the season, finding it necessary to reside away from his or her home community. Many migrant workers take members of their families to help in the fields. As the production of agricultural products demands their services, they must move from place to place to secure year-round employment.

It is estimated that there are about one million agricultural migrant workers in the United States. A quarter million of these workers are not U.S. citizens, some having illegally crossed the border from Mexico; the others are single men who are brought to the U.S. under contract with guarantee of work for stipulated periods of time. The remaining three-quarters of a million are U.S. citizens who come chiefly from several states in the southern part of the United States.

There are six major "migrant streams", that is, travel based on seasonal routes. Each stream is made up of a majority of one racial and or ethnic group—Spanish-American, Negro, Indian, Anglo-Saxon, Oriental and Filipino—depending on the origin of the stream and the direction it takes.

The following quote from an introduction to a report prepared in 1960 for the U.S. Senate Sub-Committee on Migratory Labor of the Committee on Labor and Public Welfare, is a concise summary of the conditions under which our migrant workers live and work: "The migrant and his family are lonely wanderers on the face of our land. They are living testimonials to the poverty and neglect that is possible even in our wealthy and dynamic democracy that prides itself on its protection and concern for the individual. Behind the screen of statistics showing migrant labor toiling often for as little as 50 c. an hour and working only 131 days a year, we see families crowded into shelters that are more like coops for animals, with children under-nourished and in poor health, two or three years behind in school, with little chance to develop their talents and become fully useful to themselves or to their country. This is the ugliest kind of human waste. The plight of the migrant and his family is a charge on the conscience of us all."

Description of the Research Project Community

The 1950 U.S. Census reported that Palm Beach County, Florida, had a population of 114,686, of which 30.3% was non-white. Of the non-white population, 34,746 were Negro. I spent most of my time in

the "Glades" area where the majority of migrant workers lived. At the time of my visit, the total population of this area was 22,792.

The agricultural industry provides the main source of income for the entire area. It is one of our nation's largest winter vegetable and sugar cane producing areas. Five farm labor camps house the majority of migrants who either move in temporarily to do seasonal work, or those who maintain homes there on a year-round basis. Three of the camps are used by Negroes and two by whites, housing a total of 1,559 families. The typical East Coast migrant worker is Negro and resides in Florida during the winter months—December to April—to harvest the winter vegetable crop. Around May or early June, he and his family begin their travels which may take them as far north as Upstate New York and back—a distance of approximately 3,000 miles.

Cultural and Health Problems

The group of migrants with whom I lived and worked are Negroes. Their culture, customs and attitudes about many things, especially health, are a bi-product of their isolation and lack of frequent contact with the dominant cultural groups in our society. Many are "displaced" persons, having migrated to Florida from the States of Georgia, Alabama, Mississippi and South Carolina, where mechanization of farm labor forced them to leave their homes and the only life they knew as tenant farmers, sharecroppers and farm laborers. Because they possessed no other skills and had very little formal education, the only road to survival was to join the migrant stream. Their social activities are confined to the in-group situation, with little or no exposure to, or acceptance in the life and activities of the larger community. This lack of acceptance and feeling of not really "belonging" tends to increase the isolation and insecurity of the migrant worker.

Migrants vary widely in their ability to grasp the meaning of health information. For instance, a baby who suffers severe diarrhoea is not considered ill—this is a condition that all children "go through". The concept of preventive medicine is foreign to the culture of this particular group mainly because they are either deprived of diagnostic and treatment facilities, or their experience is one of seeing a doctor, or going to a clinic, only if they suffer pain. The migrant's ignorance of what constitutes good health practice is understandable under the circumstances. In their culture they have had to depend on "homemade remedies", which have been handed down from generation to generation, for curing physical ills. The adult female migrant suffers from a high fetal loss and a high maternal and infant mortality rate. The rate of

infant mortality in this group is three times the national U.S. rate. Prenatal care is almost unheard of and infants are exposed to unsanitary and unsterile conditions. I was told by the superintendent of the local hospital in the project area, that the biggest problems that the hospital had to cope with were the prevalence of malnutrition, diarrhoea and pneumonia among babies of migrant families. The health department's initial responsibility was to identify health problems as a step toward changing attitudes *within* the framework of the migrant's culture.

Attitudes Toward Family Planning

As mentioned previously, the idea of exposing the migrant to family planning was not considered in the original research design. However, the migrant women themselves had forced the issue about having too many babies. The men were not convinced initially that their women would not "cheat" if they had knowledge about how to prevent conception, and preferred, in many instances, to keep their women "big and out of trouble". Thus, we had a job of educating the men about the rewards of family planning and attempted to involve them in sharing the responsibility for family planning practices. We felt an urgency to allay their suspicions and seek their cooperation if the practice of contraception was to succeed. It was imperative to convince them that use of a contraceptive would not interfere with the enjoyment of sex. The husbands were encouraged to visit the health department with their wives to learn first-hand what birth control was all about. If we were successful in getting a few men to understand the hazards of too frequent pregnancies, by stressing and recognizing the importance of their role as parents, word would get around to other men, thereby removing some of the anxieties about our motives. We have heard it said that "sex is a poor man's recreation". If they are deprived of this simple and inexpensive gratification, what are the comparable substitutions? It was our job to convince the men that they could enjoy this "recreational activity" without the consequences, while at the same time deriving other important benefits. We surmised that if this point could be gotten across and the husband and wife were able to practice contraception successfully, this would be tangible demonstration of their ability to determine the direction of other factors influencing their lives. The possibility of this extra dividend appealed to us!

One of my first jobs was to give correct information about reproduction and medically approved contraceptive methods. Capitalizing on the women's interest in the subject, we organized mothers' classes. It

was through these group discussions that we learned more about their attitudes toward family planning. The response to the classes was beyond expectations and I later learned that word had spread that "God had sent a baby-stopping lady" to teach them how not to have so many babies so fast. They seemed to think that there was some kind of magic formula that would stop or slow down the ever constant flow of babies. I also learned early that the "grapevine" method of communication was one of the more effective means of spreading word to the migrants about almost anything. Once the power of the "grapevine" was recognized, this method was used extensively.

Educational and Teaching Techniques

At the outset of the research project, the health department staff enumerated a set of questions, primarily to determine the feasibility of education on changing the health patterns of the adult migrant:

Is the adult migrant educable?

How does the migrant respond to group education?

What factors are important in organizing groups of migrants for educational purposes?

What appears to be the health interest of migrants?

What are the health concepts and practices of migrants?

What are the channels of communication to and among migrants?

Over a period of five years, answers to these questions would be sought. The acceptance and utilization of family planning advice could provide a valuable yardstick for analyzing the effectiveness of other health education methods.

A combination of techniques were employed and are briefly described here:

Individual migrants were observed for their potential leadership ability. Among these potential leaders were the mothers, grandmothers, crew leaders or "crew boss" as the migrants called them. (A "crew leader" is the person who performs an intermediary role between farm operators and farm laborers. He negotiates a contract to provide the necessary labor to pick the crops and provide transportation for his workers to the farm sights.) The crew leader is often the only person on whom the migrant can depend for subsistence, advice and other personal needs when he is away from his home community. According to the Browning and Northcutt Report, "*On the Season*", in the community at large, indi-

viduals who are usually considered or referred to as leaders—merchants, ministers, school teachers, supervisory personnel, etc.—were at times targets for expressions of dislike by the migrants. Therefore, the only semblance of leadership prevalent among the migrant group is the relationship which exists between crew leaders and the workers. It was, therefore, important to determine the attitude and knowledge of the crew leaders about family planning.

In order to bridge the cultural gap between the professional health worker and the migrant, the health department employed a "liaison worker". This young woman, a former migrant, was someone with whom the migrants could easily identify and confide their problems. Her knowledge and understanding of migrants' problems and feelings was invaluable. Even more important, she "spoke their language" and was known to them personally. She was the interpreter of the health department's role and interest in meeting their health needs. Special training and close supervision were given by one or two health department staff members. The liaison worker proved to be a great asset to the family planning program due to her knowledge and personal use of birth control. She had proven that birth control worked! That is, until she became accidentally pregnant. It was discreetly suggested that the migrant women be told that it was a planned pregnancy. Her youngest of two children was five years old. This well-meaning ruse proved to be advantageous since some of the women were beginning to question if they could ever get pregnant again after using birth control. Although many of the mothers said they did not want any more children, the thought of being sterile was disturbing to them. When the liaison worker felt family planning help was needed, she did not hesitate to refer parents for advice. She was an enthusiastic worker for Planned Parenthood.

The mothers' classes were utilized for family planning education as an integral part of the discussions of general health problems. Using visual aids, we covered such subjects as family life education; parent-child relationships; sex education; communicable diseases; prenatal care, etc. These weekly, informal and sometimes "gossip" sessions afforded one of the few social and recreational outlets for these mothers. We appealed to their sense of dignity and importance by encouraging them to bring friends and relatives to meetings. They responded to the idea that they would be making a valuable contribution toward helping not only themselves, but others, who

like them, were having similar problems. We helped them to feel comfortable in discussing the many "worries" they encountered in their daily lives. This approach provided an opportunity for us to gain insight into the concerns of these families while at the same time communicating to them our interest in their problems and a willingness to help. This simple recruitment process for family planning advice enabled the health department to reach many more families in their general health education program.

The public health nurses were trained to instruct the women in "easy to use" family planning methods. The vaginal foaming tablet, although not a perfect method, was selected for use in our program. We carefully explained that the tablet was not foolproof, but if used every time they had sex relations, the chances for becoming pregnant would be greatly lessened. This explanation proved to be the right one because when the method failed, as it did in a few known cases, the mothers did not become discouraged, and were willing to try again after the birth of the unplanned baby. Otherwise, the word would have gotten around that the tablets were "no good" and this would have adversely affected our efforts. In subsequent visits to the project area, I paid special attention to the women who had become pregnant to find out the circumstances of the pregnancy.

I was usually greeted with, "Nurse, it wasn't your fault—you told us it was not perfect." After acknowledging this fact, I tried to sort out the real reasons why the method had failed. There were cases of both method and patient failures. The women did not attempt to rationalize but were honest in their explanation of what had happened and why. One of the women, for instance, explained that she "got caught" when her husband "used" her in the night without warning and there was no time to insert the tablet. This was a situation over which the patient recognized that she had no control. Another mother acknowledged her own negligence, as the tablet had worked for two years without failure. She smiled impishly as she recalled that the one time she did not use the tablet was the time she "got caught". She further elaborated on her situation by commenting that she was "destined" to have a seventh child because her mother had had this number of children. I handled this erroneous attitude by pointing out that "having babies was not hereditary and could not be caught in this way". This type of informality helped to cement good relationships with the mothers while at the same time correcting misinformation based on "old wives tales" and similar attitudes prevalent in this particular culture.

As an "outsider" I felt a degree of acceptance by the mothers and thereby was able to create a positive attitude toward family planning.

The health educator helped us to develop a simple leaflet, printed by PPFA-WPEC, geared to the migrant worker's educational level. It explains what birth control is all about and tells where and how birth control information may be secured as the migrants travel from place to place. In some instances the mothers may write to Planned Parenthood Clinics and Health Centres for additional supplies. Other sources for obtaining contraceptive supplies were cited—a nurse or doctor, a drug store or public health clinics.

Reaching People—Some Basic Concepts

The preceding discussion was an attempt to define and identify some of the problems of working with these particular families. We are still exploring ways to help these "American nomads" and we are still rather excited about the opportunities for much more intensive work with this desperately needy group. From the project, however, emerged certain basic concepts which I believe are applicable in our work with similar population groups. I should like to share them with you. It is important:

1. To refrain from trying to impose one's own attitudes, standards, and way of life on families whose cultural orientation is different. We must learn to understand and operate within the framework of the culture in which we find ourselves.
2. To be a good listener and be ready to act upon what we hear, whether it seems to us practical or feasible at the moment.
3. To be patient—what we are trying to achieve cannot happen overnight. Many of the low-income, destitute families who are the targets of our efforts to stem the tide of rapid population growth, are often so involved in their own personal survival, that they may not be impressed with the urgency of reducing the birth rate for the benefit of society and future generations. Individual families, however, are more apt to react or respond to the idea of "overpopulation" in their own families as it affects their own happiness and security. To many of them the present is more important than the future.
4. Not to promise the impossible. The benefits of family planning will not accrue immediately but more likely will help in the long run to insure a better future for their children. It is much

more realistic if we communicate that the by-products of family planning such as education, decent housing and employment, *can* be achieved for their children, even though they themselves have been deprived of these benefits. It may well be inconceivable to families who are accustomed to deprivation and poverty that another baby will adversely affect their already grim circumstances.

5. Not to become discouraged when results are slow to materialize. In many cases sustained help will be needed over a period of time before we can expect that our target group will become good "contraceptors".
6. Not to overlook the human element as human beings are not predictable.
7. To create an atmosphere of mutual respect and understanding by developing a sense of dignity and a feeling of worthiness in them as human beings. We must explain that family planning is not an end in itself, but rather is only one of the ways of helping people to help themselves.
8. Not to have preconceived ideas of what we think or believe to be the best approach for reaching people with our message. It is often a matter of *defining* rather than *using* already established channels of communication.

Summary and Future Plans

In addition to our efforts to establish rapport with the migrant workers themselves, we have developed cooperative programs with public health clinics, church organizations, farmers and growers, labor departments of local and state governments, etc. Mobile operations have been used to take simple and easy-to-use birth control methods directly to the workers. Public health nurses distribute contraceptives to mothers in their homes.

As the migrant worker moves from place to place, we are stepping up our activities to set up additional family planning resources along the route of their travels. Special health cards have been developed for use by migrant workers in order to coordinate the health services provided by the various public and private health agencies, including Planned Parenthood. The job is not easy, nor will we see immediate results. Sometimes in our own anxieties about the seriousness of the population

explosion, we may create resistance to our program on the part of families from whom we must seek cooperation in the solution of the problem.

PPFA-WPEC will soon embark upon an expanded program to provide continuity and coordination of family planning services to the migrants who travel the East Coast stream—from Florida to New York. We have also initiated a program involving the Texas migrant stream. These families have a completely different cultural background (Mexican-Americans) and we will soon know which of the techniques used in the project, which I have described, will be adaptable to this group, or whether new and different approaches will be needed. Experience has taught us that it is not always possible to transfer a method of operation from one community or cultural group to another. We are optimistic about the eventual success of our work because we believe in people and their ultimate ability and desire to exercise control over their own destiny, provided that we are available and ready to lend a helping hand.

THE IMPACT OF CULTURE ON BIRTH RATE AND POPULATION INCREASE IN THE FEDERATION OF MALAYA

DATIN LADY THOMSON, M.R.C.S., (Eng.), L.R.C.P., (Lond.)

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The objects of the International Planned Parenthood Federation may be simply described as an attempt to ensure that families are both happy and healthy, and by healthy we mean in both physical and mental health, which should result from security in the home. Improvement of health of mother and father and child will only occur if families have the number of children suited to the degree of their maternal and paternal instincts, the level of their knowledge and education, and their income. Sterility in a home which is well off and wishes children is just as much a catastrophe as is the arrival of the 12th child in a poor family. This 12th child may be loved and wanted in so far as maternal feeling is present but desperate financial need may force the mother to make the unhappy decision of giving away the child.

These are some of the problems the IPPF faces and attempts to solve. Many aspects need to be considered and there is no simple solution:—adoption, treatment of sterility, sterilization and above all education of parents to the level at which some form of family planning is wanted and thus becomes a possibility, are all means to the same end.

How far have we progressed towards this goal in Malaya?

A brief review of the complex racial and economic situation in Malaya may not be out of place and will help us to understand the local problems.

In Malaya the problem of rapid increase of population beyond the food resources of the country has been fairly faced both by the Government and by international organisations such as the World Health Organisation and the Food and Agricultural Organisation, but has not been solved. Much is being done, however, by the present Malayan Government in its plan for Rural Development. The Plan aims to increase agricultural diversification and food production, to improve communications, to increase the number and quality of schools, to help co-operatives so that the farmer benefits more from his labours and the middle man less, to have better clinics and hospitals and not least, to

train more staff in all these fields, and to educate the public. Adult education is to become a part of the Freedom from Hunger Campaign both by radio talks and by the use of trained workers drawn from both Government and the voluntary organisations. A recent scheme organised for the FFHC in the coming year is to train women at the Rural Industrial Development Association Colleges in Kuala Lumpur and elsewhere to assist with extension work at village level. These women will visit homes and discuss problems of home management, such as the best way to spend money and run a home on a limited budget, and also give advice on simple home cooking with special reference to the feeding of the pre-school child. This last aspect of health education in the home is much needed, and although the staff at Maternal and Child Health Centres do a great deal of good work in this field, with the present number of nurses, sisters and midwives, they cannot hope to cover all the ground and reach all districts. During these home visits other domestic and family problems are also discussed.

In spite of all these schemes to help increase food production and to educate the people so that the best use is made of such food as is available, it is well known that these improvements will not be enough to satisfy the needs of an increasing population. Malaya with a population increase of 3.5% per year has one of the highest rates in South-East Asia. At this rate of increase, and assuming that mortality rates remain the same, in 10 years time in the Federation of Malaya alone there will be nearly another 3 million more people needing to be fed, housed and educated.

The effect of this rapid increase of population in all the developing countries of the world has been well put by the World Health Organisation which has pointed out that in 1938, 49% of the World's population consumed less than 2,200 calories per head per day, whereas in 1953 this figure had risen to 65%. The position is still further deteriorating and is likely to continue to do so in spite of increased efforts to improve agricultural methods and step up food production.

Other methods of approach must also be considered. Not only is the increase of population serious in itself, but rapid increase of this order is always associated with ill health and high mortality, both of mothers and children, and there is much waste of life and unhappiness.

What can be done?

The answer lies in education of the people.

It has always been found easier to lower infant mortality rates than to establish any form of control over the birth rate or family size.

Malaya is at an intermediate stage of development and is in the 2nd stage described by Dr. C. P. Blacker (Davey T. H., 1958, 'Disease and Population Pressure in the Tropics'). There is a stable government and economic prosperity. In these circumstances there is an associated fall in the death rate but the birth rate remains high, although not so high as among primitive peoples. The reduction in birth rate which follows technological development is the result of many factors, the main elements being a rising standard of education and living.

People in Malaya are now becoming more informed on at least one aspect of the problem of family size. A relationship between a reasonable number of children in a family and good health of both mothers and children, is more and more being realised to-day. With a further spread of this knowledge some slowing down of the rate of population increase can be expected. Awareness is growing of the dangers to the mother of frequent child bearing and of the resulting lowering of the physical and mental fitness of the children she bears. Multiparity results in a higher maternal mortality rate, [(Llewellyn Jones (1958), 'Maternal Deaths in Kuala Lumpur', *Malayan Med. J.* 13, 103). Primigravidae 4.97 mortality rate. Gravidae 2-5 3.53 mortality rate. Gravidae 6 and over 6.10 mortality rate] higher still-birth and premature birth rates, and more physical and mental abnormalities in the babies born. (Illingworth R.S., *The Development of the Infant and Young Child, Normal and Abnormal*, E. & S. Livingstone Ltd. Edinburgh and London 1960). We can do a great deal of good by spreading knowledge of these facts in the home, and with this knowledge a greater sense of responsibility to both mother and child is likely to develop. Mothers and fathers alike prefer to have healthy, intelligent children and this aspect of health education is important and in many cases likely to carry more weight than discussion of the economic benefits of the limitation of family size. One economic aspect, however, of family life cannot be stressed too much and that is nutrition education. This aspect of education has moved much to the front in recent years and is vitally important. How to spend your money well and purchase good but not necessarily expensive foods is of interest to all. The Government and the World Health Organisation and the Food and Agricultural Organisation of the United Nations are well aware of the need for education in this field and we in Malaya are fortunate to-day in having an efficient Maternal and Child Health Service which gives instruction in this. Advice on ante-natal, post-natal and children's diets is given at all Maternal and Child Health Centres. A W.H.O. adviser on Health Education and a Ministry of Health, Health Educator have recently been appointed. All these measures help the woman in the home to under-

stand what are her needs and those of her family and how best to meet them on a limited income. With this knowledge comes a greater sense of responsibility and a desire for a family of reasonable size which can be cared for efficiently.

In Malaya where there are several cultures differing from one another, it is of interest to study each separately because the impact of economic development in Malaya has affected each one, to some extent, in a different way. Malay, Chinese and Indian races live side by side but it is important to remember that there are considerable racial differences due to the fact that, broadly speaking, the Malay is rural, the Chinese urban, and the Indian family lives on a rubber estate. The three main religious groups, Christian, Moslem and Buddhist differ in their attitudes to marriage and family size and also to dietary customs, and these beliefs profoundly affect the people's willingness to adopt new ideas. Separation into urban, rural and estate homes tends to preserve the individual cultural patterns and also affects income and earning capacity. Way of life, feeding habits, religious and marriage customs vary with the races but all affect particularly the woman during her child bearing years.

Again, speaking broadly, we may say that the rural dweller is poor, many incomes falling between \$ 60|-* and \$ 100|-* per month, and this means that because three quarters of all Malaysians are rural the problem of rural poverty is mainly a Malay one.

Chinese on the other hand, are mainly urban dwellers and are able to benefit from the facilities offered in the towns. Rural development is always costly and difficult when compared with town improvements.

The Indian estate worker and his wife and family live to some extent a controlled existence and are provided with hospital, medical attention, school and shopping facilities and so although there is poverty due to a number of causes, improvement of their condition is a simple matter when compared with the more difficult problem of rural development.

These broad comments suggest that the Chinese family is likely to be the best off financially, the Indian family follows and the rural Malay family is at the lowest income level. This is borne out by surveys conducted over the last 10 years or so in the Federation of Malaya.

When we examine infant, toddler and maternal mortality figures we are confronted with a number of differences which require some explanation. It is not unexpected, when racial differences are considered,

* Malay dollars.

that the Malaysian figures show the greatest wastage of child life and the highest birth and death rates. In spite of this, the Malaysian population is increasing to-day at a greater rate than is the Chinese.

In Malaya the highest birth rate (1960) is among the Malaysians (43.3) and Indians (43.4) followed by the Chinese (37.5) and the highest death rate is found in Malaysians (11.2) followed by Indians (8.7) and Chinese (7.6). Infant mortality and toddler mortality rates are also highest among Malaysians (87 per thousand live births and 45 per thousand living at 1-4 years, respectively). Even if we take the national figure including all racial groups, the infant mortality and toddler mortality rates are far from satisfactory (69 and 34 respectively). The seriousness of these high mortality figures is well shown when we compare them with those of the more developed countries of the world, such as the United States of America or Great Britain. The Malayan infant mortality rate is three times that of the more developed countries and the toddler rate *thirty* times as great. These figures show that there is a tremendous waste of child life but in spite of this there is an increasing population. Not only is this waste of human endeavour tragic but when we consider it in terms of human suffering and unhappiness there does seem to be some urgency in attempting to improve the lot of the women whose health is undermined with this wasteful child bearing. It is also very much our concern to endeavour to put an end to the unhappy fate of the children, particularly the 1-4 year olds who suffer most and who die, not so much from neglect as from poor feeding and lack of knowledge of how to care for them. We know that most of the 1-4 year olds at risk, about 500,000 of them, could be healthy citizens were they given a suitable diet and received informed parental care. Really informed parental care in the future may, we hope, include the realisation of the need to limit the number of these children whose health can never hope to be satisfactory and so many of whom die.

The National figures for the age at which women have their first pregnancy are not known, but in a series (of all races combined) records in the General Hospital, Kuala Lumpur (Llewellyn Jones, personal communication) 22.9% of primigravidae are under 20 years of age, 52.8%, 20-24 years, 20.2%, 25-29 years, 3.5%, 30-34 years, 0.5%, 35-39 years and 0.1%, 40 years and over. (Total number primigravidae 2,221.) In another series consisting of a group of superior economic status the figures are: 4.2% of primigravidae are under 20 years of age (25)*, 37.5%, 20-24 years (225), 41.8%, 25-29 years (251), 13.5%;

* Figures in brackets are the number of primigravidae in each group

30-34 years (81), 2.3%, 35-39 years (14), 0.7%, 40 years and over (4). (Total number of primigravidae 600.) These figures show that later age of marriage does follow on improved education and better economic status. It has been confirmed that education and literacy of the mother has a marked effect on family size. An interesting article recently published, ("Rationalisation of family formation in Israel", Matras, J. & Auerbach, C., *Milbank Memorial Fund Quarterly*, October 1962, XI, No. 453). reviews what is referred to as "the change in a population or group, from family formation patterns unaccompanied and unrestricted by conscious efforts to control number or spacing of children, to family formation patterns accompanied by some such effort". The people in this survey are of special interest because of their recent change of pattern following the immigration of many different groups into Israel. Parents of the families in one group studied had not practised family limitation, and of the offspring of these parents 49% of those having three or fewer births did so. This sample includes women in the oriental traditional group, and we in Malaya, although local traditions differ from those of oriental Jews, may be expected to follow somewhat the same pattern, as education and the country's economy improve. Among the traditional and religious oriental women in the Israel series who did not practise family limitation, two thirds had not attended school at all nor been employed before marriage, whereas of those who did practise some method of control 90% had been to school and 62% had worked before marriage. The group mentioned in the article as the 'late intervention' group most nearly resembles the state of affairs in Malaya to-day. Until at least after the birth of the third child no family limitation or spacing is practised and after this time 'primitive' methods are resorted to. Prolonged breast feeding of the last child is still considered by some to delay conception, although it is looked upon as an unreliable method and some means of procuring abortion is preferred. Erratic and ineffective methods of family planning are also attempted but in a half-hearted way. These measures are all unsatisfactory and do not result in much more than friction in the relationship between husband and wife and some degree of unhappiness in the home, and often ill health of the women as well.

Young Malaysians are rapidly changing from this unsatisfactory stage and to-day marriage is expected by many to be a comradeship and the old idea of the dominant wage-earning male and the subordinate wife running the home and caring for the children is on the decline. More and more of all races accept the idea that both partners should work after marriage and with this view point the need for family spacing be-

comes more important and more acceptable. At the same time a whole range of new problems arise, predominantly those of child care. These difficulties have not been solved satisfactorily in the West and it is important for us to endeavour to avoid the same mistakes in Malaya. Advice and good council at family planning centres can do a great deal to help young people to solve these very individual and personal difficulties.

The Chinese in Malaya are approaching the stage at which their grown up children will not accept the early marriage which to some extent is forced by parents on the other two racial groups. Whether the decline in the Chinese birth rate (44 in 1947 to 37.5 in 1960) reflects this trend or whether abortion and family planning are beginning to show an effect it is impossible to say. Complete records for illegal abortion are of course not available but there is no doubt that Chinese women do attend family planning clinics to a greater extent than do the other races in Malaya. It is likely that there are other factors. One of these is that civil weddings are preferred by young Chinese women, and concubines or several wives have become rarer. With Moslems too, the idea of one-man-one-wife is being more accepted as the normal. Acceptability of family planning among the Federation Chinese is still divided mainly between those who come in desperation for advice after numerous children have been born and those more modern young women who seek advice soon after marriage so that they may delay or space their maternity.

Abortion and sterilization are also sought by all other races. There is a steady stream of obviously induced abortions entering the Federation Hospitals for treatment. It is well known that a knowledge of abortion methods is held by many rural Malay women and of course there are the professional abortionists of all races in the towns. The rural Malay abortionist is held in high esteem for her efficient methods, which consist of internal manipulation and drugs, and many of all races seek advice from her. How many of her patients become septic and subsequently die it is not possible to say.

An increasing number of women request sterilization, usually following a delivery in hospital, and tubal ligation is not as a rule withheld, provided the woman already has five or more children or if her health is unsatisfactory. It is easy to find medical grounds for sterilization as most of these women are seriously anaemic and many suffer from some degree of protein and other deficiency of nutrition.

Although neither general fertility rates nor the fertility of actual groups of women as they proceed through life are available in Malaya

from the Registrar General's Report, if we study the figures from hospital and out-patient records, we can arrive at some idea of the fertility of the population. The average Chinese woman who has attained the age of 30 years is likely to have had seven or eight children and of these six or seven are living. The Indian woman who marries at an earlier age than does the Chinese will have had about the same number of conceptions and of these, six will be living children. The Malay woman who also marries early is likely to have had eight or nine conceptions and of these, seven or eight will be living children.

In a hospital series 88% of conceptions in Chinese women resulted in living children, 86% in Indians and 85% in Malaysians. These figures are of course not national ones as only a small proportion of deliveries are conducted in hospitals. Certainly as far as Malaysians are concerned the wastage of child life is much greater than these figures suggest. In a rural series 27% of all conceptions fail to reach childhood.

It is obvious from these figures that education leading to the acceptance of the idea of a lowering of the number of conceptions would be of great benefit not only to the woman of child bearing age but to the country as a whole. Man hours lost through sickness are often referred to but no mention is made of woman hours lost through useless child bearing and the subsequent ill health of the mother.

We have mentioned the different races and the varied factors affecting birth and death rates. We have stressed the importance of educational advance and we must also mention religious beliefs. These to some extent do affect people's attitude to the home and to child bearing. It has been found, however, that from the world stand-point, the birth rate of the major religious groups depends much more on the stage of economic development reached by the members of the group, than on the religious teachings themselves.

In mentioning all these trends in Malaya we must also say that especially in the East it is still a man's world, and until education becomes much further advanced we must not be surprised to find that there is some resistance to the idea of family limitation on the grounds that this is a reflection on the virility of the male. This feeling is deeply ingrained in the human make-up and leads to refusal by husbands to have anything to do with family planning, and often they will not permit their wives to make use of any measures to this end. Not only is a large family an outward sign of virility but children are still looked upon more as an economic asset in a family, than as a liability. The more

children there are in a family the more there will be to care for the older members of the family in their old age. There is also the idea that contraceptive methods are only for loose women. The wife is in a different category. With this feeling goes a strong distaste for any interference with normal sexual relations in a respectable home, and this results in marital difficulties and new problems to be solved.

We have a long way to go to find the best solution. Even with modern contraceptive methods we are not on sure ground and although the oral method does appear to be an advance, we are still uncertain of its plitimate results on the health of the woman.

Even if we have not found the ideal answers to all these family problems, indeed it is unlikely that this will ever be attained, informed, sympathetic advice by trained personnel of Family Planning Centres can do a great deal to educate, help and comfort those who will more and more in the years to come look to the Family Planning Association for advice and guidance.

WAYS OF REACHING LARGE NUMBERS OF PEOPLE

(Background Paper based on Reports from IPPF member-associations)

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Introduction

The Reports received from member-organisations of the IPPF show a keen awareness of what was expressed so felicitously by Lord Brain, President of the British FPA, at its last Annual General Meeting when he said: "Few Associations have such opportunities of contributing to human happiness as this."

The fundamental basis of the work carried out by the Associations working under the aegis of the IPPF is the advancement of human welfare and happiness and as such it is applicable all over the world, without distinction of race, caste, creed, colour or religion. But the universality of the philosophy of family planning does not imply that it is as universally practised, and it is from this viewpoint that a study of the work being carried on in different countries is both illuminating and stimulating.

The last decade has seen a remarkable world-wide recognition of what might be termed the "demographic facts of life", for the phenomenon of the rapid and continuous increase of human population, which is occurring in several regions of the world, and the prospects of the present world population doubling itself by 2,000 A.D. have caused deep anxiety among thinking people everywhere.

Birth control, therefore, from being a subject to be considered "in camera"—as it was not so many years ago—is now one of those topics which arouses intense public interest in many parts of the world and there are active family planning movements functioning in many countries. Furthermore, in recent years, a fillip has been given to family planning programmes with the advent of Governmental support, notably, the direct responsibility undertaken by their Governments to promote family planning in countries such as Japan, India, Pakistan, Singapore and South Korea and the clear support given by several other Governments, as for example, in Ceylon, Hongkong, Barbados and some of the countries in Europe.

Nevertheless, having regard to the dimensions of the problem posed by growing populations, the spread and adoption of birth control as a

way of life, on a par with other socially healthy practices, is still lagging behind. For the time is now upon us when family planning work must be placed on a basis where it can be implemented for the benefit and well-being of the masses in general, and not only for the more educated and responsive sections of the people. In such a context, the educational process of effective communication and motivation is of paramount importance.

In other words, we must now work for family planning for the millions.

The main components of an educational programme are:

- I. The content of the message;
- II. The people whom the message must reach;
- III. The agencies and media through which the message is conveyed.

I. The content of the message of family planning

The objectives of a family planning programme reflect at least three major aspects, namely:—

- (a) Promoting family well-being and the health of mothers and children;
- (b) Regulating the rate of population growth (whether it be to decelerate or to increase it);
- (c) Promoting healthier attitudes towards love, sex and marriage.

While the introduction of family planning services brings all these aspects into play, the tendency is for greater emphasis to be laid on one or another of them according to the needs of the country in question. Thus, for example, the first two aspects are of paramount importance in the underdeveloped regions where population growth is very rapid as compared to the rate of economic development—i.e., in countries in Asia, Latin America and Africa. The emphasis here is primarily socio-economic and consequently the educational campaign also lays stress on the necessity for smaller families so that the resources available, presently and in the future, can be matched to the needs of the people on the basis of rising standards of living. On the other hand, some of the European nations (for example, the Scandinavian countries) have already achieved a position of low birth and death rates. In their case, a good deal of the emphasis is now placed on sex education and marriage guidance for young people, in a social order where almost unlimited personal freedom carries with it the social responsibility of discovering the true way to use and enjoy such freedom. Also it is felt that the increasing use of contraception should help to lower the incidence of

abortion, legal or illegal. Then again, in newer fields, as in the Philippines, where religious affiliation must be taken into account, the chief interest lies in promoting family welfare in different ways, touching incidentally on the planning of family size.

The particular educational approaches used to influence people into adopting fertility control as a part of their cultural lives must be relevant to the actualities of the life of the people concerned. Hence, it would not be conducive to success to try simply to transplant educational techniques from one region to another. Nevertheless, certain general principles can be evolved to help in forming the basis of such programmes, and it is to discover these that the present discussion is being held.

II. The Persons who must be reached

Quite clearly, the object of promoting family planning work is to reach out to those underprivileged sections of the people who need such help in order to raise their living standards. Among such sections are two main categories—the rural dweller and the urban, low-income group often residing in slum areas. The advanced Western countries do not now have a large rural component nor is it particularly “backward” any more. In such countries, greater attention has to be directed to the highly congested, slum and semi-slum city areas. On the other hand, in those countries which are just entering an industrialised order, the rural, agricultural sector still comprises round about 80% of the total population. The whole of South East Asia, except Japan, falls into this category.

Reports from Japan, Hongkong, Thailand, Malaya, Singapore, Ceylon, India, West Indies and even the U.S.A. show much concern for the rural sector.

For instance, in the U.S.A., the richest country in the world with the deepest penetration of modern comforts into rural living, there are, nevertheless, the backwoods people who are only reached, if at all, through mass communication media. Also a most interesting rural sector is comprised of agricultural migrants—“American Nomads”, the Report picturesquely calls them, who number a million strong, and are a “desperately needy” group. For them, PPFA-WPEC have developed programmes in co-operation with public health centres, church organisations, farmers and growers, labour departments of local and State Governments etc. They are using mobile units, instructing public health nurses to distribute contraceptives to mothers in their homes, setting up supply stations along the route of the migrants’ travels, and Federal Government Health cards for the use of these migrant workers include help in family planning.

In Japan, with its totally literate population, rural programmes in family planning have been promoted by communicating with key people in the administrative Prefectures, who then become the disseminators and instructors. Seminars for them have been organised. Pamphlets, particularly two of them: "How to promote family planning in cities, towns and villages" and "How to instruct", have formed the basis of practical instruction, together with other audio-visual aids.

Even in crowded Hongkong, there is a rural sector situated in the New Territories, where the farmers have been found, so far, to be "often conservative, suspicious and hostile to birth control ideas". And the women working in the fields, sadly states the Report, "do not stop work to listen to our visitors". It adds that these persons prefer to have more children in order to augment their labour force especially as many of their young men have immigrated. Hence, the Hongkong Association has ceased to send home-visitors to these villages; instead, it has consolidated its work in the existing medical and health centres in the New Territories.

In Thailand, one of the approaches to the rural people is by unofficially getting the trained health personnel under the Medical Health Department interested in this subject, who can then spread word about family planning in the course of their work. The Report stresses the need for more family planning workers who can go out to the villages to contact the rural population, which is 80% of the total population of Thailand.

Singapore, overcrowded city that it is, still has 16 rural clinics, conducted as efficiently as all its other family planning work.

In Ceylon, there are good medical services throughout the Island and the FPA of Ceylon has co-operated with the rural Preventive Health Service in spreading family planning services. There are now 50 outstation clinics run by the M.O.H.'s or D.M.O.'s of the areas concerned. The Report states that "there are more rural people patronising our clinics than urban". India has 80% of its population scattered in 550,000 villages. To these vast numbers, who are mostly illiterate (though cultured in their traditional lore), and living on the edge of dire poverty which stifles the urge for change, the message of family planning is being conveyed through a network of recently established socio-economic agencies. About 3,250 centres have been started in rural areas (though they are functioning in varying degree) from where free family planning advice and service can be obtained. But time is against waiting for the natural flow of results, and hence an intensification of effort has to be constantly implemented.

A special category of rural workers are those organised as plantation labour and large concentrations of these exist in several countries. Three reports mention them, namely, those of the Federation of Malaya, Ceylon and India.

In Malaya, some of its Rubber Estate Managements were willing that family planning services be made available for their workers, being prepared also to contribute towards their cost. The Report states that whereas in Johore and Selangor this work has not proceeded far, in Perak, "estate work has been a major part of its programme and, since 1959, the Mobile Van and Team have provided a continuous service, which now comprises a circuit of 88 estates". The idea of family planning has been welcomed, but, as elsewhere, there is that wide "gap between theory and practice".

Estate workers constitute an important segment of Ceylon's rural workers and the FPA has made various approaches to them. Now, the Planters' Association Health Scheme Medical Officer, with whom the Association closely co-operates, has succeeded in interesting plantations within his jurisdiction to pay a small contribution of Rs. 25/- each per annum for a special Propaganda Officer for Estates to be appointed. The Director of the Sweden-Ceylon Family Planning Pilot Project and his Ceylon counterpart are very helpful in the approach to Estate workers.

In India, Tea Estate managements in South India, West Bengal and Assam have taken an interest in introducing family planning services for their workers. The Indian Tea Association in particular, with the aid of some Government grants, is instituting a systematic scheme of family planning on Estates in Eastern India. It has engaged a specially trained Social Worker who has undertaken the educational work and she is now to train the first group of "Family Planning Helpers" who, when they return to their Tea Gardens, can spread information about family planning among their neighbours.

Urban dwellers include many types of people but one of the most important classes is the industrial worker living in the congested areas of cities. In fact, a major part of the activities of all the Family Planning Associations has been in urban or semi-urban areas.

Another special category is that of the members of the Armed Forces, and references have been made to it in Reports from S. Korea, Hongkong and Finland. India also has a family planning programme for the Forces. Other special groups are Railway workers and Mine workers and Japan and India have family planning services for them.

III. The agencies and media of communication

The educational approach for family planning is of two main types—a general diffusion of ideas, putting them “in the air” as it were, where the public hears about family planning like any other topic of public interest. This has proved to be a very valuable way of getting a generally favourable attitude towards family planning among large numbers of the people, especially in the newly developing countries. The other type of education consists of material specially prepared for and directed towards “target groups”, i.e., those from among whom the potential patients are to be drawn. Mention might be made here of the special importance—at least in Asian countries—of educating the menfolk in particular, and not just approaching the mothers, for the man usually plays the dominant role in most of the important matters affecting family life and his co-operation has to be won. At the same time, there has to be a continuous campaign to educate the potential educators—i.e., the medical, para-medical, and welfare personnel, pastors, teachers, etc. as well as all those who are in a position to influence their neighbours, such as village elders and community leaders.

The media generally used are:

- (i) Word of mouth—home visits, group talks, lectures, etc.
- (ii) Written and pictorial materials which can be scrutinised individually (books, pamphlets, newspaper articles, etc.)
- (iii) Audio-visual aids viewed in groups (films, filmstrips, posters, puppet shows, exhibitions, etc.)

The Reports from member-organisations show that there is a clamour for more and more material in categories (ii) and (iii). Even where the technique of person-to-person talks is most effective, the educators are demanding material such as simple charts, pictorial explanations, pamphlets etc. to help in talking more effectively, and to leave them behind, with the potential family planner, for further reading in appropriate cases.

Several member-organisations have produced films. These are certainly helpful in the general diffusion of family planning ideas. But it might be interesting to conduct a study to find out the extent to which and the situations in which films can be an effective medium.

The person-to-person approach is laborious, time-consuming, dependent to some extent on the personal idiosyncracies of the educator, the moment chosen for the contact, and many other variables. On the whole, however, it is one that has to be employed very widely at present, especially among illiterate or under-privileged groups, for it is felt that

the fears, misinformation, doubts, or lack of initiative of such people can be turned towards positive action where an accepted and friendly authority actively encourages them to adopt a new practice such as family planning.

It may be interesting to insert here some findings from the Study of clinics in Bombay conducted by the Demographic Training and Research Centre which reveal the effectiveness of different educational stimuli. The Study shows that the women attending the Bombay clinics are mainly drawn to them either through medical sources (doctors, health visitors, social workers, other family planning clinics, hospitals and clinics), or through interpersonal sources (friends, acquaintances, relatives, neighbours and husbands). Mass media (newspapers, telephone directory, advertisements or sign boards) were of minor importance. The percentage of women drawn from these three sources were: medical sources 51.7 per cent, interpersonal sources 37.8 per cent and mass media 10.5 per cent. But it may well have been, the Study implies, that the mass media had a much greater, indirect influence than this percentage reveals.

The agencies from which family planning information emanates are predominantly:—

- (i) Voluntary workers—unpaid social workers and community leaders of various types.
- (ii) Professional experts—doctors, nurses, health visitors, midwives, social workers, etc.
- (iii) Governmental and non-Governmental organisations dealing with health or socio-economic questions.

While splendid work has been done by all these categories, experiments are now being initiated to bring about a situation where the potential family planner receives the stimulus to adopt family planning from sources *within* his or her daily environment rather than from comparative outsiders who come bearing a strange message.

This is now being tried in Puerto Rico for example, where voluntary "leaders" drawn from all walks of life have been appointed (after some training) to be the educators and distributors of simple contraceptives to people. It is reported that, so far, the results have been very encouraging.

In India, large numbers of workers are now posted for different types of rural work in villages, who are constantly in touch with people at large. These include the personnel employed under the Health and Medical services (doctors, nurses, health visitors, nurse-midwives, dais, compounders, sanitary inspectors and others) the Community Develop-

ment organisation (Block Development Officers, Social Education Organisers, Gram Sevaks and Sevikas etc.) and the educational service comprising teachers. All these are paid Government servants. They are gradually being drawn into short orientation courses in the philosophy, urgency and simple techniques of family planning so that they may, in turn, disseminate the information in the course of their work.

Among the private individuals who exercise influence in their communities are village elders, members of mahila mandals (women's institutes), village dais (midwives), etc. Now, with the setting up of elected Panchayats (Local Government Councils at village, taluq and district levels with considerable local autonomy and finance), the Panchayat members are expected to take up family planning programmes in their areas. It is planned to give them an orientation in family planning and then they can be the educators and motivate the people in their villages and districts. Madras State has spelled this out very explicitly for it has been statutorily laid down that the Panchayats have two major responsibilities; one is the augmentation of food production to the utmost, and the other is to control population growth by providing advice and assistance in family planning. And more specifically, "targets" have been laid down, Block by Block, of the number of sterilisations that ought to take place in each year (400 per year)—of course, on the voluntary application of husband and wife jointly.

Perhaps it needs to be mentioned that all these categories of educators are also expected to practice what they preach.

The purpose underlying all this new activity in the different countries is to transfer family planning from being an external and predominantly medical measure into a cultural practice integrated with the other marriage and family ideals, customs and practices. (This, of course, can be helped on faster, when simpler methods, not dependent on medical examination or clinics, are perfected or with a method such as surgical sterilisation which requires only the one medical treatment.)

Some Observations

In promoting family planning for the millions, it becomes apparent that the past experience of Family Planning Associations—and the oldest among them are about 40 years old—has not yielded enough data on the most effective ways of reaching and influencing large numbers of people.

And yet, this is the crying need of the hour.

While the traditional way of organising family planning movements has proved invaluable in starting the work in many parts of the world, much thought and some organising is now under way, for example in some of the countries in S.E. Asia, the Caribbean and the U.S.A., to add

something more to the established mode of conducting such work. The traditional way tends to assume that the basic appeal of family planning to the individual is chiefly to improve health; that the medical experts should have the leading part in dispensing methods; that medical clinics are the only proper place for getting advice and assistance; that the patients must visit, re-visit and somehow become permanent clients of such clinics; that certain methods only are the good ones.

In a massive "crash programme", however, these assumptions show some shortcomings—such as the enormous organising costs involved, the lack of sufficient numbers of qualified medical personnel and the obvious and not unnatural reluctance of so many people, wherever they may be, to become permanent "patients". Most importantly, the urges which drive a couple to avoid the natural results of their marital activity usually are not simply a desire for better health (which is now so easily attainable in many other ways) or even economic stability, but a complex of sometimes clashing desires, based partly on the need for security and also on the desire for more physical, mental and emotional satisfaction out of life—in general, for an enrichment of living.

Another factor is that the techniques of introducing public health measures, even in socially and economically stagnant societies, have become very advanced and so, large numbers of people are being saved from untimely death almost in spite of themselves. But where control of births is concerned, no such passivity is possible; people have to help themselves, and can only, at best, be helped to a realisation of this. This involves a considerable flow of communication and persuasive education carried out through many channels.

In view of the challenges thus posed, research studies are now being carried out in several countries, pin-pointed to certain aspects, but with the over-all aim of discovering the most effective means by which knowledge of family planning can be spread and an impetus given for its rapid adoption on the widest possible scale. Studies on the organisational and educational aspects of communication, (including methods, techniques, skills and the materials needed), the identification of the resources and agencies which can promote the acceptance of family planning, diagnostic studies on specific questions and on methods by which the impact of the family planning programme can be measured and evaluated, are now under way in some parts of the world. In India, the Ford Foundation is assisting in this field and a Central Family Planning Communication Research and Action Centre is being set up and at least six Action-cum-Research Projects are currently running in different parts of the country.

Some Pilot Projects have been carried out in the Caribbean area and in the U.S.A.; Chicago is the scene of some experimental studies under the auspices of the Family Relations Centre of Chicago University. In Ceylon, the Sweden-Ceylon Family Planning Pilot Project has been going on for some time now and shows interesting data on educational approaches. Projects are under way in Pakistan also, with similar aims.

What are the new factors which are emerging in the educational component of the family planning programme? Some of them can be listed as follows:

(1) The experiments with multi-level educational campaigns. Mass education on any subject can best come about when there is a pervasive diffusion of information at all levels and from many directions. This is evident particularly in the less industrialised countries where village leaders and elders, village midwives, and humble working people are being stimulated to be voluntary educators. To give a rather minor instance, the Report from Malaya shows that the mobile clinic driver can be a good family planning educator and this is also beginning to be the experience with the FPAI mobile clinic driver in Bombay! Then again, in Poona and other areas, peons (office messengers) who have undergone vasectomy have proved to be effective in explaining this operation to rural and urban audiences of similar status. In Puerto Rico also, the educational leaders are recruited from many strata of society. In Chicago, one of the communication experiments is the arranging of "Coffee Sips" where a housewife is persuaded to invite her neighbours for coffee and then the subject of family planning is brought up. This sort of get-together has roused interest in the subject among many housewives.

(2) The development of a non-clinical approach. With the increasing use of the simpler methods, it is becoming feasible for family planning facilities not to be exclusively clinic-centred. This is a desirable development, for in the poorer countries, a clinical set up is very expensive—and rather wasteful since the patient-load is usually comparatively light. Also, the publicity attendant on going to the clinic is in many cases a deterrent.

The dispensation of advice and methods at the home or some community place (for those who will not or cannot visit clinics) can stimulate greater acceptance and perseverance.

Connected with this is the need for the easy availability of supplies. To be able to obtain cheaply priced contraceptives from normal trade

channels, as well as from clinics and their personnel, is essential if family planning is to become a regular practice. "Depot holders" are slowly being tried out in Indian villages, "supply stations" in the U.S.A. and the distribution of supplies through mobile vans is already being done in Malaya, Hongkong, Barbados, India etc.

(3) The mobile clinics stand somewhere between a clinical and a non-clinical approach, and represent a new experiment as far as family planning work is concerned, (although mobile services have proved successful in the field of medical work in different regions). In fact, a little "fashion" is arising for mobile vans, and many family planning associations are desirous of acquiring such units. There are both advantages and disadvantages in such vans, and it might be worthwhile to carry out a study on the type of van best suited, the situations where it can be best used and how far it is effective in augmenting the numbers of those practising family planning.

The advantages are briefly that: considerable numbers of persons who might otherwise never be reached can be contacted; supplies can be brought to the door, instead of the user having to travel long distances to get them (and probably never doing it); it saves on the number of trained personnel required; it can cover lightly populated areas where static clinics cannot be established.

The disadvantages are chiefly related to the high cost of purchasing and operating the vans; that they cannot travel in very bad terrain; that their arrival and departure are very public and anybody coming up to them is equally in the glare of publicity (though there are many instances where this is not resented). This last can be countered if the unit is a health and child welfare unit including family planning, rather than exclusively a family planning one.

Mobile vans have been found useful, for instance in slum or other neglected neighbourhoods in the U.S.A. and in the Rubber Estates in Malaya. In India, in Maharashtra State, the Government mobile vans tour the villages not only for educational work and for giving out contraceptive supplies, but to inform people about, and stimulate them to consider, undergoing vasectomy and telling them when and where the vasectomy "camps" will be held where they can get operated upon, free of charge. Considerable numbers of villagers have had vasectomy operations since this system started.

(4) A greater flexibility in advising methods is perhaps inevitable when the potential clientele is vast. The present "simple" methods are: condoms, foam tablets and gels among contraceptives, coitus interruptus

and rhythm among "natural" methods and sterilisation, male or female, as a surgical method. No doubt, more types of methods will make their appearance as time goes on.

(5) The family planning work has, so far, been organised on a voluntary basis everywhere, and it is only within the recent past that official support and help are forthcoming in some countries. But voluntary organisations cannot have the means or the coverage needed when very large-scale educational and service programmes must not only be launched but must show quick results. Therefore, integration with some part of the Governmental Health and Medical services is being sought and implemented in many countries, for example, in Japan, Hongkong, Singapore, Ceylon, India, Pakistan, Puerto Rico, some of the Caribbean islands, and even in advanced countries like Britain, U.S.A. and some European countries. This integration is very desirable especially as contraceptive methods and sterilisation fall under the medical purview, while family planning communication programmes are being linked up with health education work.

Nevertheless, there does seem to be a strong case for a more explicit connection with economic activities as well and not only with health. There does not seem to be any real reason why only Health Departments should have to bear the burden of spreading the word about family planning and not, say, Departments of Agriculture, or Labour, or Education (the last, especially as regards preparation for sex, marriage and parenthood).

Particularly, in the developing countries where the rural, agricultural sector constitutes so vast a majority of the total population, Ministries of Agriculture might well take a prominent part through their rural cadres in actively assisting in the tasks of communication and motivation. In India, the Labour and Education Ministries are beginning to take some interest, but as yet, their links with family planning work are rather tenuous.

In this background paper, education for sexual enlightenment and marriage guidance has not been dealt with. These subjects are of increasing importance for all countries. In the advanced Western countries much attention is being devoted to them. But the educational techniques involved are specialised and developed mostly on the basis of a literate, industrialised society. It is, therefore, not possible, owing to lack of space, to deal with this aspect of educational programmes, the more so, as there is not the same urgency involved in reaching out to very large numbers of people, as there is in the case of lands where falling death rates are still not matched by lowered birth rates.

IMPACT OF CULTURE ON FERTILITY IN PAKISTAN

ATTIYA INAYATULLAH

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Introduction

Pakistan is the sixteen-year old independent sovereign State of the Indo-Pakistan sub-continent. The basic facts of the 1961 Census and other sources reveal a total area of 365,529 square miles. The average density of the whole country is 256 per square mile. Pakistan is a predominantly rural society (87.0%). The per capita income stands at Rs. 255/- per annum; the average life expectancy is not known with any exactness but is probably no greater than 40 years. The literacy rate for persons over 5 is recorded as 19 per cent. The population is predominantly Muslim. The death rate is in the vicinity of 25 per thousand of the population and the crude birth rate in the region of 50 per thousand. The number of dependents is high, over 40 per cent are under 15 years of age. These birth and death rates imply an annual rate of population growth round 2.5 per cent, which if continued will double the population in 40 years. The population of Pakistan is today close to 100 million, of which the great majority are living at subsistence level.

With these facts before us, though it is agreed that the pride of procreation is a feeling that can barely be matched, one reflects, cannot this fertile abundance be shifted from its parametric Malthusian pedestal of "a passion between sex" to the progressive sphere of control through the rationality of man? Human mass production is undoubtedly Pakistan's problem number one, and in our country, as in many others, we find that the word "planning" is a fashionable jargon for discussion. Yes, population planning too is today in Pakistan a matter of concern for the State and much effort is being put into the First Five-Year Family Planning Scheme to make it a success.

Pakistan's demographic facts have been briefly specified; this passing reference was necessary as it scientifically and categorically testifies to the fact that the population of my country is, in purple language, exploding. It is the contention of the writer that these facts of fertility are influenced by the particular cultural condition of a given social milieu. What then is the impact of culture on fertility in Pakistan?

Before proceeding, it is pertinent here to clear two points of relevance. The first relates to the universe under consideration. As stated

earlier 87% of the population is rural, and as such all my observations and assumptions will relate to Rural Pakistan. The second is in regard to the status of the evidence used to substantiate inferred hypothesis. In the sociological sub-area of population studies, research has not received the attention it merits. Incidental and generally inconclusive information on a wide number of topics is available. The research bias has not yet taken root in my country.

While, politically, Pakistan is an undeniable unity, anthropologically, like most nations, it is not a homogeneous entity, hence generalizations are dangerous. But the limiting scope of the paper demands certain assumptions be formulated. This paper then gives a synoptic view of the problem and its prospects, states some assumptions and reveals certain general and specific relationships.

Socio-Cultural Variables

The tangible aspect of intangible culture is the social structure and the most pervasive factors of the social structure are those which attempt to induce or reduce fertility. As such, the areas of interest in this paper are family, kinship and community organization patterns, religious obligations, social customs, rituals, tabus and interacting environmental factors.

It is postulated that Pakistan is Reisman's tradition-directed society, is contained in Weber's traditionalistic model. It can be categorised as Redfield's folk society and the Gemeinschaft type. Man is a product of Cooley's looking glass self and Darkheim's mechanical solidarity operates in group structure. In further considering the theoretical frame of reference it is assured that in Pakistan as Notestein and others have theorized "a society having to face the heavy mortality characteristic of the pre-modern era must have high fertility to survive.¹ All such societies are therefore ingeniously arranged to obtain the required births. Their religious doctrines, moral codes, laws, education, community customs, marriage habits and family organisation are all focussed toward maintaining high fertility".

Family, Marriage and Kinship Structure

The family in Rural Pakistan is the basic unit of human interaction and has a larger role in the analysis of social relations than in the West. In terms of the Weberian Ideal type the family is of the extended—institutional type. Stress is laid on the authority of the eldest male member

1. F. Notestein. 'Population—The Long View', Food for the World, T. Schulz, Editor, Chicago, 1945. Pg. 39.

of the family; he is pivotal in the fixing of privileges, roles and rights. Marriages are arranged. Marriage implies the meeting of social expectations. The husband-wife group is given little importance in the larger kinship set-up. Further, the assumption that fertility is responsive to its economic viability has not yet penetrated into the family structure under consideration. In this pattern consciousness of a large family ideal is not crystallized but when specifically questioned the desire is usually for large families as they are an old age insurance and also a resource for exploitation. The extended family shelters the brood, children are cared for and attended to by siblings of either sex. Thus the parents are relieved and divested of much of the responsibility.

Marital status directly affects fertility. Girls are married when they come of age, in the case of boys too this is generally the criterion rather than whether he is an earning man. Marriage within the extended family is usual—most commonly with first cousins. Marriage is a universal phenomenon, in fact, a sacred trust, and the sooner the better. Polygamy though permitted under special circumstances is not significantly prevalent, however its acceptance is a threat to the security of woman. It is reputed that women who are concerned with their husbands' faithfulness seek charms and "*totkas*" of a varied nature from varied sources. There is a belief that dust from a holy place if fed to the callous husband will strengthen the marriage ties. Early pregnancy is encouraged, and there is a social approval of prolific women, especially male bearing ones. Such values are made more tangible through *charhavays'* local quackery, the commissioning of the village drummer to proclaim the good fortune of a man who has had a son. Such sayings as "*Awrat bharie rahe tho theek hai*" (Woman is alright so long as she remains pregnant), and the protective cult of the *pirs* and *mullahs* for the woman who has profound concern if she is not pregnant by the end of her first year of marriage.

Woman is a reproductive asset. The lactation period is long, often till the next pregnancy and usually till the child is round 2 years of age. Sexual relationship is in some areas tabu during the lactation period as it is during the month of *Ramzan*, menstruation of the woman and certain other periods of religious significance. But this period is not significant enough from the demographic viewpoint.

Care for children is demonstrated in an attempt to boss over and control them. The high infant and child mortality rate has evolved a system of rituals pertaining to the welfare of the little one. One is reassured by the smearing of antimony on the forehead, stringing an amulet around the baby's neck, etc. In this consanguineal family type, children

are produced as an adherence to the group pressures of the extended family and to maintain the power of the "*baradari*" or kinship group.

Social Environment

Society is male-centred. "A wife is for the husband, a person over whom a man builds a house, with whom he engages in sex relations, who provides him meals and for whom he provides. Her companionship is of little importance."¹ For the wife, her husband is "a venerated god, even if he be devoid of any virtue, he is the only centre around which the thoughts of the chaste wife must be woven, he is the warp and woof of her life all in all."² A low degree of communication and companionship exist between husband and wife, though not universal; a widespread attitude is contained in the quoted Frontier and Sindhi proverbs; "One must not believe in the talk of women" and "A woman has her senses in her left heel". The burqa a symbol of purdah is losing ground though the purdah psychology of segregation exists extensively and explains restrictive social customs, such as, the seclusion of woman bringing prestige to the family, the spending of much time by males in the "*Baithak*" or "*Hujra*" of the house which is out of bounds to women and the eating of meals by women after the men have eaten. However age co-relates within the family a respect and prominent dominance of the old woman. Yet, I state again that man is the dominant sex. He marries to reproduce. He is the decision-maker. Such a power structure implies that the primary target in any fertility control programme must be the conversion and cooperation of the male.

Community Structure

Where then does the male get his sanction and approval from? From his community. Since he sets the pattern of life in the family and takes major decisions, such as, when the next baby is to come or whether it is a problem to even think about such things or not, it is worthwhile to briefly review his social environment. Communication in Pakistan is inadequate and generally the villages are still isolated. In both spatial and kinship grouping the village is an intimate group. The deviant is considered either as being eccentric or an outcast. Ego identification is necessary, hence the response to the non-conformist is constrictive for, e.g., complete punishment is imposed through the stopping of "*hookah pani*". Obedience to the patriach and loyalty to the leader is perogative. The leader is usually one who has a prestigious "*zat*", owns relatively more land, is thought to be pious, and has contacts with government.

1. Honnigman. J. J. (Three Pakistan Villages) University of North Carolina, 1958.
2. Religions of India, Hopkins.

He is the "Wadero" or "Lambardar". In certain areas the men who wear turbans outrank the others.

The Pakistani male in social matters is orthodox, God-fearing, ignorant and resigned to his fate. It may be generalised that the culturally defined core values of the 85% rural-living Pakistani are (1) ethnocentricism and a parochialism, (2) consciousness of social rank, (3) family privacy and purdah-psychology and (4) adherence to the Islamic belief system.

In such a community structure one finds that the implications on decision making in fertility are not direct but indirect. Factors exist which militate against reducing fertility.

Interests

Research further shows that the common Pakistani's interest is his work, mosque, family, village|*mohallah*. What does not interest his daily life, he is singularly incurious about. Recreation is provided in different areas of the country and in different forms through such sports as Kabaddi and wrestling, other activities like gambling, kite flying, partridge fighting, prostitution, homo-sexuality, story telling, singing, gossiping and the ceremonial life of the village.

Traditional Folk Religion

It remains to define very briefly the existing Islamic belief system. Islam for the illiterate—the rate of illiteracy in Pakistan is 19%—exists as a pattern of ritual. These rituals have symbolic value and evoke much emotional sentiment. Islamic piety is negligible but a profound concern for God and moral affairs is expressed. It would here be worthwhile to cite a few examples. It is believed that children are God's gift, He provides for every mouth he creates, and it is wrong to attempt any interference in this scheme of things. Further, esteem is manifest in reading the Holy Quran in Arabic at an early age, irrespective of whether one ever understands the content or not, again, to have performed the pilgrimage to Mecca is a status symbol and the use of the word "*Bismillah*" is widely used before one commences any work. Adherence to a host of rituals such as these is the mark of a Muslim. The religion's creed, its interpretation and divine guidance are sought from *Mullahs*, *pirs*, *faqirs*, *guddy nashims*, *mujawars*, *muttwalis*, etc. The ignorance of the people is exploited by this class of myth-makers. They are narrowly traditionalistic and have power without responsibility. When difficulties or problems arise, security from the unknown is sought in traditional beliefs rather than emperical investigation. The infinite resignation to

and reliance on *Qismet* of the average Pakistani result in emotionalism, apathy and an ostrich approach. An instance of this approach is the general belief that the number of children one has to have is pre-destined and man can do nothing about it.

That Islam is in actuality a progressive, practical religion, that its legal and religious sanctions by no stretch of imagination stigmatize family planning, as is the general belief in rural Pakistan, is a separate subject, consideration of which is beyond the scope of this paper. The pivot on which cultural and social institutions revolve in Pakistan is a religion which contains rites of passage and rites of intensification that strengthen and reinforce old patterns.

Conclusions

The concept of the maintenance of an optimum population as enunciated by Carr-Saunders through such practices as negligence of care of children, prolonged lactation, war, infanticide, etc., is not applicable to conditions obtaining in Pakistan. Nor is it valid to say that our heavy mortality rate justifies a high fertility rate for the mortality rate has decreased in the last ten years. Neither are we in the pre-modern age. Rather we are a land where the infant mortality rate is declining due to improved health facilities, where the expectancy of life is higher, where there is an awareness of rising expectations, where consumption needs are increased and labour fast getting specialised, where the rural cyclical pattern of existence is giving way to the upward stream of socio-economic mobility, where the planners, educators, administrators and social scientists with one accord are concerned with the problems of a developing country. But the other assumptions contained in the theoretical frame of reference stand on solid ground, as quoted earlier the religious doctrines, moral codes, education, community customs, marriage habits and family organisation are all consciously or unconsciously focussed towards maintaining a high fertility rate. On reflection, these facts bring to mind Ogburn's Cultural Lag theory. The immense signs of change in Pakistan must not be under-estimated, however existing values reinforce the folk system and play a deterrant role in a country that is geared to a policy of progress and economic development. The drag of tradition is tremendous but demographic events of recent years contain many surprises.

Fertility is concerned with births, and though over-population is a public problem, no change in attitude or behaviour can be expected till the control of excessive reproduction becomes the felt need of each individual reproducing unit and all agents of social change. The tangible

signs of such a penetration will be registered through fewer marriages, higher marriage age and fewer births.

An innovation such as that of planning families can be self-generative only when it is institutionalised and made functional in the social structure, the first requisite for which is a change in the cultural environment. The culture of the East believes that people matter much more than machines and other imported refinements of economic development. It seems, the need for us in Pakistan is to develop rationality in reproductive behaviour, this is both a difficult and long process. It requires knowledge and exposure. We have a long way to go when one thinks of the village *Mullah* fining a man of his village who works in the city Rs. 1000/- for being sterilized. His interpretation is no doubt an expression of his belief system. If fertility is to be controlled and growing children be made into assets for the nation of tomorrow, social and cultural adjustments must be made so as to induce widespread restrictions on fertility. In conclusion, I must state once again, that in the absence of enough sociological research restrictions are imposed on such a paper and this, ladies and gentlemen, is a humble analysis of suppositions and dissection of undercertainties.

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CLOSING SESSION - ADDRESS

LIEUT-COLONEL B. L. RAINA

(Director of Family Planning, Ministry of Health, Government of India)

I may recall impressions of the very pleasant week we have spent in this city. I understand that in the Twelfth Century a Prince from the Court of Shri Vijaya came to this island and was charmed by its scenic beauty. He also saw a large animal and thought it was a lion or a tiger and named this island Singapore—City of Lions. If the Prince was to come to-day he will still see the scenic beauty but his efforts to find the tigers will obviously be fruitless. Instead he will find, as we did, colourful gay and very hospitable people. He may be tempted to give another name, Sunderpur—The Beautiful City. We are very grateful for the affection extended to us by the people of Singapore wherever we went.

The warmth, informality and friendliness were present in great measure right from the first day when Mr. Lee Kuan Yew, the Prime Minister went round shaking hands instead of every one walking up to him for introduction, and also when Mr. and Mrs. Lee graciously received us at their official residence. Dr. Toh Chin Chye, Mr. Yong Nyuk Lin and Mr. Rajaratnam were also most kind.

We are grateful to Prof. Sheares and Mrs. Goh Kok Kee, Mrs. Amstutz, Dr. Sodhy, Mrs. Foo and other members of the Conference Committee, and to the large numbers of team workers, especially students of the University, for their efforts to make us comfortable. The work of organizing an international conference is difficult—requires virtually back-breaking work. That such work was done so well is a great tribute to the untiring and devoted worker whom you often saw going about her job calmly with a smile from early hours to late at night, Mrs. Vera Houghton, and to her team, and to other officers of the Governing Body and Council, and many others.

We were also privileged to have with us the great pioneer who founded in Sweden the National League of Sex Education and who soon after the World War II mobilised the scattered family planning workers and revived the International family planning movement. Some of you have seen her talking to children looking at her with curiosity and affection in a film. The simplicity and charm of Mrs. Ottesen Jensen is irresistible to children and adults alike. The progress made by the IPPF during her stewardship is outstanding in the history of the Federation.

I may also reiterate how much we missed the Founder President, Mrs. Margaret Sanger and the late Dr. Abraham Stone.

Explosive Growth

It is not merely a coincidence that this conference is being held in Singapore. Of the 3,115,000,000 people of the world at present 57 per cent live in Asia. A great deal has happened during the last few years. Population in these areas has shown alarming acceleration of growth. Death rates have shown spectacular reduction. Efforts to further improve present living standards and secure fuller life for our children are thwarted by ever increasing numbers. We are to run to keep even still, at present levels of fertility. These well-known words need constant repetition till family planning becomes a way of life of people throughout the World.

The solution of the problem is obvious though difficult. I understand that in a mental hospital a standard procedure for assessment is to lead the patient to a room with a number of water taps flooding the floor, and with a mop in a corner. The mentally sick take the mop to clear the water. The sane turn off the taps.

The organisers of this Conference have developed a multi-faceted program bringing together discussions of demographic, economic, social and cultural factors, communication, oral compounds and intra-uterine devices and biology of reproduction, so that the problem can be reviewed in its broadest perspective.

Family planning has been viewed here as an essential element in the total strategy of development.

Sensitive Techniques of Assessment Essential

It is essential to have a clear picture of the demographic situation on a continuing basis. At the Conference, there were few papers of a more standard demographic nature. It is a healthy sign. The existence of the broad problem of over-population is firmly established. The attention of demographers now must be directed to the task of perfecting sensitive techniques for detecting small changes in fertility trends, over a short period of time. In this way, we can learn quickly about the effects of the variety of regional and local programmes being developed across the world.

Vital Statistics

The urgent need for assessment of programme effectiveness directs our attention also to the need for improving *vital statistics* systems.

Various methods for upgrading basic statistics collection, even on an immediate sampling basis, are available and deserve our support and encouragement. In countries where the family planning workers themselves are stationed fairly widely, they can be involved in the system for collection and transmission of reports of births.

Recognition of Multiple Factors in Adoption of Family Planning

The family planning movement in many countries to-day had its origin in the movement towards emancipation of women, plus the urge in responsible citizens to provide direct social welfare service to poor families. For historical reasons, therefore, earlier family planning efforts have tended to emphasise women, leaving the men somewhat out of the picture. There also has been a tendency to limit the approach to establishing clinics which offer relatively elaborate medical service. From the discussion we have had, it is apparent that during the last few years many critical evaluations of the role of conventional family planning clinics have shown that such a source can reach only a small number of families and are otherwise inadequate.

At the same time, there have been new developments in research on contraception and on communication. Naturally enough, people closely associated with development of a particular new method are loyal to their method, and hope for its widest possible use in family planning programmes. We have been stimulated in this Conference by such enthusiastic workers.

I feel that all of us have emerged from such discussions at the Conference with a much broader view. The interaction of fresh and individual views has helped us to understand that there is no **one** best approach to an effective family planning programme. The acceptance of family planning and the development of a programme to accelerate this acceptance is a complex multi-factorial process. The total system varies from country to country, and from area to area. The relevant factors and their interrelationship also vary from time to time, as the historical process evolves. It is therefore up to the people interested in family planning to try and understand the total picture in their own area, at a particular time. They can then help to accelerate progress, through an application of the best possible combination of organisational methods, educational techniques and contraceptive measures.

A cautious approach is sometimes essential. But our minds should be always open, flexible, receptive and progressive. Also, care should be taken that in our enthusiasm a programme is not set back. Public Health workers are familiar with the history of an enthusiastic health

officer who allowed chlorination of water supply in a place in U.S.A. to become as of political controversy. Supporters lost the election, and it took years to heal the wounds and to introduce much needed legislation.

A very striking and important aspect of the Conference has been the maturation of the family planning programme: the recognition of its place within a wider perspective of social and economic development.

The Role of Clinic Revised

In the formal papers and informal discussions at the Conference it has been very striking to observe the fading away, without struggle, of the older concept of the clinic. It seems generally recognised that adoption of family planning is after all a normal social process.

Contraceptive materials are commodities of daily life which can and should be as easily available to married people as food and other necessities. The clinic thus becomes a *second-echelon* resource, for use to support those people who have special problems or who will use those methods which require expert medical aid. The decision to take the family planning program out of the clinic, to the people, is a quiet revolution of most profound importance in the history of family planning movement.

Community Approach

The community-level approach has the advantages of recognising and facilitating the normal process of adoption of family planning, and of reaching more people with less expense. It does not force the people to an artificial mould.

But to develop a community-level approach still obviously involves many difficulties. Community-level work requires carefully organised promotional campaigns, in order to create a receptive climate of public awareness and interest. In addition, and of prime importance, it requires field workers who are well-trained in the special techniques of helping groups of people to make *their own group decisions* in favour of the small family habit. This cannot be done by knocking on doors. It requires identifying naturally-occurring groups, and then setting up situations where by they themselves can identify their own problems, and obtain the information they want for working out their own solutions. In order to create the receptive climate and then to mobilize the power of social pressure within groups, it is obvious that two main factors are essential. (1) good training aimed at preparing workers

for the specific tasks expected of them, and (2) an organisational structure that can provide good planning, supervision and support of field activities. In the present Conference, discussions in both these aspects have helped a great deal in identifying goals and problems. However, it is obvious we have only scratched the surface. Further experimentation and development of educational and organisational aspects of an extended community level family planning programme requires the best imagination and effort of all of us. Motivation and organization, to my mind, are the greatest and most challenging frontiers in the family planning movement henceforth.

New Methods

We have now many contraceptive methods which have been taken up by nations and have reduced birth rates. We have the great further promise offered by the pill and the intra-uterine device. There seems to be sufficient evidence now to undertake field trials on a wider scale than at present, and we have no doubt, we shall have even better methods in the future. But the propagation of any of these methods will automatically depend on improved educational and organisational set-ups.

I may venture to say that we may expect at the next IPPF conference some reports of experience on these aspects which will be of the utmost significance.

Public Health Personnel

In many countries, the lack of highly developed public health channels for education and supply of materials and services constitutes the major barrier to extension of the programme. If public health authorities can accept family planning as a top priority health programme, then the net-work of public health services offers the extremely important organisational base for the family planning programme activities. The health workers, especially midwives and sanitarians, have extensive, continuing contact with the people and are well accepted. Malaria control workers, for example, have unique opportunities.

Sterilisation and Abortion

Greater light has been shed in the conference on sterilisation and abortion. If the people, because of their particular situation, chose to adopt a particular norm of behaviour, the ignoring of that behaviour will not change its importance or role. The experience of India in the field of sterilisation and some countries of Europe and Japan on abortions have especially been well presented at the conference. It is apparent that all over the world, in rich or poor countries, people frequently turn by themselves to such methods of solving the problem of unwanted

births. More studies of this phenomena are greatly needed, to identify and clarify the situation rather than to ignore it. In countries where the population crisis is acute, official recognition of such a reality can catalyse the total, complex process of movement towards a stable population.

Sex Education and Family Life Education

You have seen the delightful film in which Mrs. Ottesen Jensen speaks to children about human biology. This film focusses attention on another important field—Sex Education. Dr. Radhakrishnan in Delhi had emphasised in his closing address to the Sixth Conference that "Sex is the expression of love as well as the means of procreation". Suppression of knowledge on sex is not conducive to development. We, the adults, the parents, have a social responsibility to children to help them understand this.

I may refer also to the reply of Socrates to his student who asked whether he should marry or not. Socrates advised, "whichever you do, you will repent it". Montaigne said, "The land of matrimony is where the people who live in it wish to be exiled, and those who are out of it wish to come in". These remarks emphasise the complexity of familial harmony and the necessity for mutual understanding, respect, and the value of family life education. These and similar problems also need more attention of family planning workers.

Role of IPPF

I have been asked to say a few words on what IPPF should do in the future. I must confess I am not qualified to give such advice. I can only reiterate that IPPF has done a splendid job. They should consolidate and expand their activities. They should not relax their effort to present objectively the challenging facts about the present population crisis. They should continue to draw attention of the moulders of public policy and of the people to the gravity of the demographic situation and the numerous facets of the problem. At the same time, people may be encouraged to develop their own solutions, which will vary from country to country according to their own situations, cultures and values. This, in fact, the IPPF is already doing. The remarkable improvement in climate of opinion over the years is a tribute to the efforts of the IPPF.

Biological Research

In the area of biological research, of course, other important progress is being made. Regarding the use of immunological techniques to affect fertility, the basic strides reported at the Conference offer exciting

possibilities of practical application. Further studies on the mechanism by which steroid compounds influence endocrine function need to be emphasised. Studies on the relations of the hypothalamus to reproductive function also appear to be of great import. In addition, we now have a large number of pharmacological compounds which influence different links in the reproductive chain. Studies to understand the mechanisms of their action may have great usefulness.

I have been trying for some time to emphasize the necessity of working with animals having a menstrual cycle, on a wider scale, and of developing primate research centres in areas in which large numbers of animals are readily available, such as India. With this type of experimental animals, it will be possible to expand greatly the limited basic knowledge that we have presently derived from studies on laboratory rodents. For example, the importance of the nervous system in reproductive behaviour can be much better analysed.

We have made considerable progress with contraceptive substances which can be taken by women. Greater attention could be given to drugs which can be taken by men in order to affect spermatogenesis. Local chemical contraceptives need also to be further developed.

These are some random reflections; it is obvious that the area of research is wide. It should be noted that there is no such thing as a contraceptive that is ideal for everybody. Many of the present methods are ideal for those that use them now. The urgency of the problem demands that we use what we have, and still continue the pursuit for better methods. There is no doubt in my mind that the success of this is assured. It is a matter of time.

We need not feel discouraged or say this or that cannot be done. As some one has said, "the world is moving so fast that anyone who says that it cannot be done may be interrupted by someone who is doing it".

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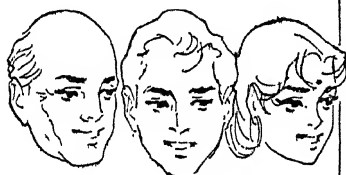
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 - (c) treatment of childless couples desiring to establish a family,
 - (d) marriage problems.
3. To endeavour, wherever feasible, to supply the necessary contraceptive appliances to married couples of low and middle income groups at as low a cost as possible.
4. To collect information and statistics relating to family planning.
5. To foster and develop contacts with organisations engaged in a similar type of work in India and abroad.

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THE JOURNAL of FAMILY WELFARE

Personal, Marital, & Sociological

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This Journal is devoted to discussing views and providing information on all aspects of family planning, including social, cultural, and demographic factors, medical problems and methods of fertility control, and questions pertaining to education for marriage and family living. It is endeavouring to accomplish this in a non-technical manner so that the lay public as well as social workers may become more closely acquainted with this area of welfare.

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INTERNATIONAL SEMINAR ON PHYSIOLOGY OF REPRODUCTION—INAUGURAL ADDRESS

Dr. V. R. KHANOLKAR

(President, Indian Society for the Study of Reproduction)

Research on Physiology of Reproduction has been receiving attention of scientists working in diverse fields. Many of the physiological mechanisms leading ultimately to fertilization and conception are still not clearly understood even in the case of any one species of laboratory animals and much less in the case of human beings. It is unnecessary to point out that research on this important subject has a direct and wide application to clinical medicine and gynaecology in the treatment of menstrual disorders and idiopathic infertility. Nature has thrown a challenge in the treatment of certain cases where the cause of infertility has not been clearly understood. Veterinary research workers have also been interested in this subject particularly in relation to animal breeding, preservation of animal semen and improvement of useful characters in livestock.

During the last few decades, demographers, economists, and official and non-official organizations have supported researches dealing with the physiology of reproduction particularly due to an alarming increase in the world population. And it is likely that before long the WHO will also become actively interested in studies connected with this important subject. Fundamental research in biological and medical sciences normally finds immediate and direct application in the alleviation of human suffering. It is logical therefore to expect that research on Physiology of Reproduction will also have a direct bearing on the control of human fertility so essential for the health and happiness of people all over the world. The rapid decline in the death rate and the phenomenal increase in the birth rate has resulted in an alarming overall increase in world population. It will be superfluous to tell this audience about the apprehension of demographers and other responsible persons in charge of governments concerning this grave problem.

Even though all may not be fully aware of the fact, scientists in this country have been actively interested in this subject for quite some time. Some of the pioneering work has been carried out at the Indian Veterinary Research Institute at Izzatnagar by Bhattacharya, Prabhu and their colleagues and also at the U.P. Veterinary College

by Roy and his co-workers. D. P. Mukerji and Bhattacharya were the first to demonstrate the significance of seminal plasma in the reproductive function of the female rabbit. They demonstrated that the gel mass in the rabbit semen by forming a vaginal plug had a much more important role to play than merely to enmesh spermatozoa and prevent the outflow of semen. The gel mass was shown to hold a large number of spermatozoa in a state of temporary inactivity and later to release them slowly towards the uterus. The presence of oestrogenic hormones in the gel mass was also demonstrated. Further work indicated that the seminal plasma was absorbed through the vaginal walls of the rabbit, an observation of far reaching importance. They have also been interested in the subject of artificial insemination, a matter of vital significance to the progress of animal husbandry.

Bhattacharya and his colleagues at the Indian Veterinary Research Institute and Roy and co-workers in Mathura have done considerable work on the effect of diluents on sperm motility, viability and survival. They have also been interested in the quality of animal semen and the ways and means of improving it.

Kar and his colleagues at the Central Drug Research Institute, Lucknow, have been interested in the gonad-endocrine relationship in laboratory animals particularly in rats, and you will hear more about this work during the course of your deliberations.

Anand and his group at the All India Institute of Medical Sciences have been particularly interested in studying the neurohumoral mechanisms connected with the processes of reproduction in rats and monkeys. Recently, clinical research has also been initiated at the Institute by Malkani and her colleagues.

The Reproductive Physiology Unit at the Indian Cancer Research Centre has been engaged both in biochemical and immunological research connected with the Physiology of Reproduction. Some of the significant observations on the biochemical research relate to the percentage motility of spermatozoa in human semen indicating that it was directly proportional to the succinic dehydrogenase activity. Such activity remained unaltered for a period of two to three hours after the collection of semen. These findings will be of value not only in an accurate assessment of initial percentage motility, but also in the estimation of spermatozoal motility of a large number of semen samples at the same time. An accurate and specific method has been worked out for the estimation of fructose and fructolysis in human semen. Detailed investiga-

tions have also been carried out on the constituents of seminal plasma which are likely to affect the spermatozoal metabolism.

The immunological research which has been in progress has helped in elucidating the antigenic composition of human, buffalo, rabbit and fish semen. It was found that human and buffalo semen possess antigens which are common to blood serum and other secretions of the body. The most significant observations were the occurrence of auto and iso antibodies to spermatozoa in the blood serum of certain infertile men and women. Immunological investigations have also been in progress with some of the gonadotrophic hormones. Encouraging results have been recently obtained in the preliminary experiments carried out to induce serological infertility in female rabbits.

Ramaswami and his colleagues and Nayar and his co-workers have been interested in the activity of endocrine organs and its effect on the reproductive function in the lower forms of animals like fishes, frogs and insects. You will hear more about their work during the the next few days. Recently, several workers in the University Departments of Zoology at Banaras, Delhi, Jaipur, Baroda, Mysore, Travancore and Calcutta have been studying these and related problems. They will be discussing their work during the course of this seminar.

In recent years, great interest has been stimulated in research on the physiology of reproduction as is evident from published work and the seminars and conferences which have been held in this country. I believe, there were as many as three seminars and symposia on this subject during the course of the last ten months and the Reproductive Physiology Society would have organised another seminar at Ahmedabad during the 12th All India Conference on Obstetrics and Gynaecology which was scheduled to meet last month, but for the national emergency.

Research on the scientific aspects of family planning have been included in all the three Five Year Plans. Studies on this subject have also been initiated at the All-India Institute of Hygiene and Public Health in Calcutta, the All India Institute of Medical Sciences, New Delhi, the Departments of Zoology in Universities, the Reproductive Physiology Unit at the Indian Cancer Research Centre and several other institutions in this country. Realising the need for basic research on this important subject, the Ministry of Health through the Indian Council of Medical Research has been supporting research schemes related to this subject. The help and co-operation of foreign agencies

like the Ford Foundation, the Population Council and the Worcester Foundation have also given an impetus to it.

It may be mentioned that although a lot of research was in progress on this subject in different institutions in the country, there was no common forum where research scientists, physicians, veterinarians and zoologists could meet and discuss their work. The need for cross fertilization of ideas among workers belonging to these different disciplines needs no particular mention. It is with the object of getting together workers interested in related problems in this sphere of research that the seed for the formation of the Indian Society for the Study of Reproduction was sown during the Fourth All India Conference on Family Planning held at Hyderabad in 1960. The main object of the Society is to draw to a common platform all the research workers in the country engaged on these problems and, I believe, it has succeeded in this objective as is evident from the list of participants at the present seminar.

It is a matter of great satisfaction to us that the Family Planning Association of India, under the dynamic leadership of Smt. Dhanvanthi Rama Rau, has taken a keen interest in the initiation and the progress of the Society. And I may be permitted to state that Smt. Dhanvanthi Rama Rau has been largely responsible for making it possible for the Society to hold the present seminar. It is a matter of pride to the Society and all Indians that a few days ago she was elected the President of the International Planned Parenthood Federation.

It has been felt that it is essential to build up a library where the pertinent literature on Physiology of Reproduction and the development of testing of contraceptives could be assembled. The Dean of the Seth G. S. Medical College has been kind enough to make available to the Society necessary space for the purpose. The need for such a library is very strongly felt by research workers and I should therefore like to request Indian and foreign agencies to assist in meeting this important need.

THE RELATIVE ROLE OF INFORMATION SOURCES IN THE DISSEMINATION OF KNOWLEDGE OF FAMILY PLANNING METHODS IN BOMBAY CITY

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&

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There exists no systematic study in India in which the communication process is taken into account to see how it influences the propagation of family planning methods. The present paper is intended to create interest in this line of research, and attempts to examine what information sources were effective in the dissemination of knowledge of different family planning methods in Bombay City.

Until recently there were two distinct traditions of communication research. One was concerned with communication with respect to campaigns such as election campaigns, marketing campaigns and campaigns to reduce racial prejudice, focussing attention on the efficiency of mass media in influencing opinions, attitudes and actions in a given direction. This line of research which has been pursued for the last thirty years has been confined to urban society. A second line of research which developed somewhat later and has existed independently of the former, has dealt with such questions as campaigns to promote the adoption of new farm practices. This type of research has been based on concepts and methods of rural sociology and has emphasised the study of traditional values and kinship and primary relationships. On the other hand, communication research in urban societies has conceived society as an agglomeration of disconnected individuals. When the importance of interpersonal relations was realised, mass communication research revised its image of urban society and there has been growing similarity in approach in both urban and rural studies. Family planning communication research can learn much from the experience of both types of studies.¹

1. Katz, Elihu : "Communication research on the image of Society : Convergence of the two traditions," *American Journal of Sociology*, Vol. 65, pp. 435-440 ; Katz, Elihu and Martin L. Levin : *Traditions of Research on Diffusion of Innovation*, University

Previous studies on family planning communication

The application of communication research in the field of family planning is a recent innovation. In a preliminary survey of low-income Jamaican women, data were collected on the source of information of family planning methods². The analysis was mainly confined to a study of the relationship between the attitude towards birth control and the source of the individual's knowledge of family planning methods. It was found that the individuals most opposed to birth control were more likely to have first heard about birth control from friends, neighbours, or relatives than those disposed favourably towards it. The proportion who received information from professional sources and mass media was higher among those favourably disposed to birth control. An effort was also made in this study to measure the changes in attitudes and behaviour with respect to birth control introduced by three different communication media, viz., pamphlets, group meetings and case work. In a study in Puerto Rico, information was obtained on the extent of interpersonal communication with respect to the use of birth control. The role of friends and neighbours as sources of influence was noteworthy³. Another study also made in Puerto Rico, investigated the role of leaders with regard to their influence in making contraception acceptable and in the development of the communication process⁴. In the public opinion surveys made in Japan by the Population Problems Research Council of the *Mainichi Newspapers*, data were collected on the utilization of information sources to learn about family planning. The influence of newspapers, radio and magazines was found to be important⁵.

Data for present study

The present paper is based on data collected in a sample survey undertaken in connection with the Centre's Bombay Birth Study. The main objective of the sample survey was to obtain information which could be used to assess the accuracy of data on parity as given in birth

of Chicago, (Mimeographed); Katz, Elihu and Lazarsfeld, Paul F., *Personal Influence*, The Free Press, Glencoe, Illinois (1960), pp. 1-47; Klapper, Joseph T.: *The Effects of Mass Communication*, The Free Press (1960), pp. 15-97.

2. Stycos, J. Mayone and Kurt Back, and Donald O. Mills: *Prospects for Fertility Reduction*, The Conservation Foundation, New York, 16 (mimeographed)
3. Hill, Reuben; J. Mayone Stycos; and Kurt W. Back: *The Family and Population Control, A Puerto Rican Experiment in Social Change*, Chapel Hill, The University of North Carolina Press, 1951, pp. 350-64
4. Kanter, John F., Samuel A. Staiffen and J. Mayone Stycos: *A Non-Clinical Approach to Contraception*: Preliminary report on the programme of the Family Planning Association of Puerto Rico (mimeographed).
5. *Public Opinion Survey on Birth Control in Japan*, Nos. 7, 13, 15, 16, The Population Problems Research Council, The Mainichi Newspaper Tokyo.

certificates issued by the Bombay Municipal Corporation. A random sample of 1,000 birth registration forms, relating to the period, 1st September, 1959 to 31st August, 1960, was selected from the birth registers maintained by the Corporation and an attempt was made to interview the mother of each child and obtain data on the number of her pregnancies and live births for use in checking similar data found on the registration forms. For various reasons, it was not possible to locate many women included in the sample, and the number of mothers interviewed was only 666⁶.

Advantage was taken of the survey to obtain information on the extent of knowledge of family planning methods, which could be used in developing the Centre's fertility research programme. Data were also obtained on the source through which women came to know about each of the methods. The following sets of questions provided the information on family planning:

- (1) Have you heard about family planning? IF YES: What does it mean to you?
- (2) Do you know any methods by which family planning can be practised (pregnancy can be prevented)? IF YES: What are they? How did you come to know about each of them?
- (3) Did you and your husband practise at any time any method for avoiding pregnancy? IF YES: Which? When (reckon against chronological order of pregnancies)?
- (4) Are you practising any method now? IF YES: Which?
IF NO: Why not?

The questions asked about family planning had been designed to test the value of a relatively simple schedule in obtaining information on the knowledge and use of methods. The data obtained are inadequate for a detailed communication study. With respect to the role of media in the dissemination of knowledge of family planning methods, the only pertinent question asked was: "How did you come to know about them?" for the methods reported as known to the woman interviewed. No probes were used to find out all the sources by which the woman learnt about each method nor was any attempt made to arrange

6. The number of cases who could not be contacted was as follows:

(a) came to Bombay only for delivery 67; (b) mothers had left Bombay 80; (c) mothers had moved to distant suburbs 7; (d) mothers had died 3; (e) refusals 3; (f) new address within Bombay not available 38; (g) failure to locate addresses 117. Nineteen cases were contacted subsequent to the analysis made for this paper.

in order as first, second, third etc., the different sources from which a woman learnt about the same method.

It is difficult to get an accurate listing of all the sources from which a woman came to know about different family planning methods by a simple question as the one used in the present study. The response is affected by loss of memory and the interviewee may remember some of the sources better than others. When many methods are learnt from the same source, the interviewee may not be able to recall all the methods known from this source. The survey data are, therefore, likely to reflect only such sources which might have made a deep impression on the interviewee.

The actual data of the survey substantiated some of these misgivings. Of the 666 women who were interviewed, 344 or 52 per cent reported knowledge of one or more methods. On an average, each of these 344 women had knowledge of two family planning methods. As a rule, the survey gave only one source for each method known to a woman. The analysis in this paper should, therefore, be interpreted as probably relating to what the interviewee considered as the most important source from which knowledge of the method was obtained.

It should also be emphasised that the sample of women who were interviewed was confined to those who had registered a live birth in the recent past. Because of this selectivity, it will not be proper to generalise from the findings of this study, the relative roles of different communication media in the dissemination of knowledge of family planning in the entire Bombay City.

Method of analysis

(a) *Index*

An index was developed to enable comparison of the different sources with respect to the extent to which they had imparted knowledge on family planning methods. Such an index could be obtained by dividing the number of women in the sample who learnt about one or more methods of family planning from a specific medium or source, by the total number of women with knowledge of family planning methods. However, some sources may impart knowledge on several family planning methods, while others may be more restrictive in regard to the number of methods on which they provide information. An index taking this factor into account can be obtained by weighting each source by the number of methods for which it was referred to as the agency which

provided knowledge. It is this latter index which has been used in this paper to compare communication sources with respect to knowledge of family planning methods. A similar index for comparing the role of communication sources in the dissemination of knowledge of *specific* family planning methods was evolved by dividing the number of times women obtained knowledge of a specific family planning method from a particular source by the number of women who had knowledge of that method.

(b) *Classification of Information Sources and Family Planning Methods*

In the analysis of the data, the information sources were first grouped into the following eight categories :

- (1) Friends, neighbours and acquaintances
- (2) Husband
- (3) Relatives other than husband
- (4) Physicians
- (5) Nurses, health visitors and social workers
- (6) Family planning clinics
- (7) Hospitals and clinics other than family planning clinics
- (8) Mass media (books, pamphlets and newspapers)

The classification of information sources into these categories from the data available on the schedules was not easy as the entries were often not sufficiently detailed. As such, some categories may have been over-represented, while others may have been under-represented. For instance, whenever an entry of "doctor" as the source of information was entered category (4) was used, although in some instances the "doctor" might have been the one attached to a family planning clinic or a hospital.

For analysis related to the study of the sources with respect to specific family planning methods, the sources were grouped into three broad categories, namely the (1) medical sources, (2) informal interpersonal sources, and (3) mass media, as shown below.

- (1) Medical sources include physicians, family planning clinics other clinics and hospitals, nurses, health visitors and social workers.
- (2) Informal interpersonal sources include friends, neighbours and acquaintances; husband and other relatives.

(3) Mass media include books, pamphlets and newspapers.

The family planning methods were classified into the following seven categories: (1) Condom, (2) Diaphragm or pessary and jelly, (3) Foam tablets, (4) Rhythm, (5) Female sterilization, (6) Male sterilization, (7) Other methods (include Homoeopathic and Ayurvedic methods).

Assessment of the role of different sources in providing knowledge of methods

The index showing the frequency with which different sources provided knowledge of family planning methods is given in Table 1, ranked in descending order of the magnitude of the index. The source "friends, neighbours or acquaintances" has the highest value of 0.72 while "nurses, health-visitors and social workers" gets the lowest value of 0.04. The sources "hospitals and clinics other than family planning clinics", "physicians", "mass media", "relatives other than the husband", "family planning clinics" and "husband" respectively occupy the second, third, fourth, fifth, sixth and seventh ranks.

As explained above, the method of calculating the index will tend to give higher values for sources which are likely to give knowledge of several methods at one time, as compared with sources which restrict the giving of information on only a few methods. The average number of methods on which information was given by the different sources to each woman is shown in Table 2.

Mass media consisting of "books, pamphlets and newspapers" obtained the highest average of 2.6. "Family planning clinics", "friends, neighbours and acquaintances", and "physicians" were close together with an average ranging from 1.9 to 1.7. The remaining sources gave a lower average. The least average of 1.2 was scored by "hospitals and clinics other than family planning clinics". If the number of women who learnt of family planning methods from each source and not the number of times learnt is taken as the criterion, the ranking of the sources is not materially altered, the sources "friends, neighbours and acquaintances" and "other clinics and hospitals" obtaining the highest ranking and "husband" and "nurses, health visitors and social workers" obtaining the lowest ranking.

Among the women interviewed, the methods most commonly known were Sterilization of the female and the male, and Diaphragm or pessary

and jelly, while that least known was Rhythm. Table 3 gives the percentage of women who had knowledge of the different methods.

It is interesting to study the role which the different communication sources played in imparting knowledge of each method. As already referred to, the sources of communication were grouped into three broad categories, namely, "medical sources", "informal interpersonal sources" and "mass media" for purposes of reckoning the importance of these sources in spreading knowledge of different methods. The values of index for the different methods are given in Table 4, and show the following features:

Knowledge of female sterilization was obtained by the women largely from "medical" and "informal interpersonal sources" while in the case of male sterilization, "informal interpersonal sources" played a major part in providing the information. Mass media played a minor role in providing information on sterilization. With respect to contraceptives—Condom, Foam tablets, or Diaphragm or pessary and jelly—the main communication agencies were "medical sources" and "informal interpersonal sources". Mass media were important only in supplying information on the Rhythm method. The influence of social and economic background, and particularly of education as affecting the media from which knowledge of family planning methods was obtained, will be dealt with in a later paper.

Summary and conclusion

The paper is intended to create interest in the study of the effectiveness of different communication media in the propagation of family planning methods. Data obtained in a sample survey of 666 women in Bombay city have been analysed to make a comparative study of the roles of different communication media in the dissemination of knowledge of family planning methods. As the sample survey was intended primarily to check the accuracy of information given in the birth registration forms, the data are not without limitations. These limitations have been pointed out in the paper.

The analysis made has shown that 344 or only 52 per cent of the 666 women interviewed possessed knowledge of one or more family planning methods. On an average, each of these 344 women had knowledge of two family planning methods. The methods most known were sterilization both female and male, and diaphragm or pessary and jelly. Rhythm was the least known method.

The communication sources most responsible for the spread of knowledge of family planning methods were "friends, neighbours and acquaintances" and "hospitals and clinics other than family planning clinics". "Family planning clinics", "husband", and "nurses, health visitors and social workers" rated poorly in the spread of knowledge of family planning methods. Mass media—books, pamphlets and newspapers—were also of minor importance in the diffusion of knowledge of family planning methods. The analysis of the roles of communication media with respect to the spread of knowledge of different methods also showed that except in the case of the 'rhythm method', mass media had not been very influential in disseminating information.

Where the mass media had served as sources of information, the average number of methods of family planning on which knowledge had been provided was 2.6 and was the highest recorded by the different sources. This emphasises the need for an intensification of efforts to use mass media for spreading knowledge of family planning methods. The important role which "informal interpersonal sources" has played in the spread of knowledge of family planning methods, such as those of diaphragm or pessary and jelly, is of special interest, for diffusion of knowledge from such sources may lead to greater acceptance of methods than through mass media.

TABLE 1

Frequency with which different information sources provided knowledge of family planning methods to 344 women in Bombay City

Rank order (1)	Information sources (2)	Frequency (3)	Index (4)
1	Friends, neighbours and acquaintances	247	72
2	Hospitals and clinics (other than family planning clinics)	157	.45
3	Physicians	97	.28
4	Mass media (books, pamphlets and newspapers)	58	.17
5	Relatives other than husband ..	52	.15
6	Family planning clinics	37	.10
7	Husband	26	.07
8	Nurses, health visitors or social workers	15	.04

TABLE 2

Average number of family planning methods on which knowledge was provided by each information source

Information source	No. of methods on which women had obtained knowledge	No. of women who had obtained knowledge	Average No. of methods on which each woman had obtained knowledge
1. Family planning clinic	37	20	1.9
2. Hospitals and clinics (other than family planning clinics)	157	130	1.2
3. Physician	97	58	1.7
4. Mass Media (books, pamphlets and newspapers)	58	22	2.6
5. Husband	26	18	1.4
6. Relatives other than husband	52	36	1.4
7. Friends, neighbours and acquaintances	247	141	1.8
8. Nurses, health visitors and social workers	15	10	1.5

TABLE 3

Percentage of women with knowledge of different family planning methods out of 666 women interviewed

	No. of women with knowledge of each method	Percent out of 666 women interviewed
1. Female sterilization	271	40.7
2. Diaphragm or pessary and jelly	134	20.1
3. Male sterilization	115	17.3
4. Condom	83	12.5
5. Foam tablet	47	7.1
6. Rhythm	27	4.1
7. Other methods	22	3.3

TABLE 4

Indices of the frequency with which information sources provided knowledge of family planning methods

Family planning method	No of women reporting knowledge from			
	Medical sources	Informal inter-personal sources	Mass media	All sources
1. Condom	27	45	11	83
2. Diaphragm or pessary and jelly	64	56	12	132
3. Foam tablet	21	21	5	47
4. Rhythm	7	9	11	27
5. Female sterilization	145	113	8	266
6. Male sterilisation	38	72	8	118
7. Other methods	8	10	3	21

Index

Family planning method	Index			
	Medical sources	Informal inter-personal sources	Mass media	All sources
1. Condom	.33	.54	.13	1.00
2. Diaphragm or pessary and jelly	.48	.42	.10	1.00
3. Foam tablet	.45	.45	.10	1.00
4. Rhythm	.26	.33	.41	1.00
5. Female sterilization	.55	.42	.03	1.00
6. Male sterilization	.30	.63	.07	1.00
7. Other methods	.38	.47	.15	1.00

THE BEGINNING OF FAMILY PLANNING IN THE NETHERLANDS*

CONRAD VAN EMDE BOAS, M.D.

(President, Dutch Society for Medical Sexology)

The New Malthusian League (N.M.B.) was founded in Holland in 1881. One of the two personalities who took the initiative was the radical liberal, Victor Carel Gerritse, friend and later on husband of Aletta Jacobs, who herself joined the organisation in 1882. The League remained small in the beginning and its slogan, *non quantitas sed qualitas* applied, as such, certainly to the organisation as well. There were but few members, some dozens, but among them we find leading liberal statesmen of the time such as M.W.F. Treub (1858-1931), van Gijn, van Houten—all the three later became cabinet ministers and politicians of great importance—and also eminent doctors, such as the Amsterdam professor of obstetrics and gynaecology, Hector Treub (1856-1920), elder brother of the politician.

Most of the doctors, however, were "passive" members, sympathizers whose names were kept secret because they could not afford to support officially such a controversial movement without endangering their position. In 1882, for instance, of the 35 doctors who were members of the N.M.B., only one doctor, Dr. de Rooy, dared to admit his membership openly, and that alone is sufficient reason to save his name from oblivion. One year later Dr. Aletta Jacobs, our first female doctor, followed his example, who in a certain sense, showed even more courage than him. Considering birth control as the most powerful weapon in the struggle for the emancipation of women, she decided to offer officially her support to the N.M.B. To begin with, in 1882, she held twice a week a polyclinical consultation for infant welfare for the wives of working class men. In the same year she made the acquaintance of the Mensinga diaphragm and decided to add to her service contraceptive advice also. At that time, however, one could not yet talk about a proper birth control clinic organized by the League.

It was in 1886 one of the N.M.B. pamphlets expressively mentioned Dr. Jacob's clinic as a place to get contraceptive advice. In 1890 the League organised, by means of a circular, a financial drive to obtain the means for two premises for Dr. Aletta Jacobs in Tichelstreet, which entered history as the world's first "birth control clinic".

* We had published an article on Dr. Aletta Jacobs, pioneer of birth control, in the *Journal of Family Welfare* of December 1962. We are now glad to publish this article which, as Dr. Van Emde Boas said, is a "small historical addition" to it.

In 1892 the League already owned three birth control clinics led by doctors—one of Dr. Aletta Jacobs in Tichelstreet in the Jordaan, a popular Amsterdam district, one in Groningen guided by Dr. de Waard and one in Rotterdam, under the guidance of Dr. Joh. Rutgers, the man who was to take within a couple of years decisions which might be considered far-reaching and fatal for the future of the N.M.B.

The N.M.B. had been growing during the first decade, but slowly. Ten thousand so called "booklets on contraceptive means", a pamphlet written by Dr. Aletta Jacobs, describing all the then known contraceptive means and methods tested according to their medical reliability, were sold.

Apart from the three above mentioned doctors and those who were working inconspicuously as passive members, several midwives helped the organisation by supplying contraceptives to their poor clients for a very small remuneration. Already then the "barrier killer" was promoted as a standard method and the Mensinga diaphragm received the name by which it is internationally still known: Dutch pessary.

The number of patients in those years reached some thousands. Until the war, I possessed a letter of Dr. Aletta Jacobs' husband, V. C. Gerritse, saying: "there is still a tremendous amount of work to be done in Tichelstreet. Only this morning, my wife had to send 27 patients away after having continued the session for an extra hour."

In the beginning of the nineties it seemed as if the quiet development would continue without any hampering. But just about the turn of the century the situation became suddenly much more difficult, due to both internal and external reasons. As to the first: in the political and cultural life of the country, the period of liberalism came to a close, when the right wing clerical parties seized power and induced a period of anti-family planning, a real popular front which had come to stay for about half a century. The establishment of this front, however, was even promoted by the inner development of the movement in itself.

In 1900 Dr. Rutgers became president of N.M.B. He was a genuine fighter for his ideals, a man determined all his life to carry out what he considered right and just, without giving away to any obstacle. He had started out as a clergyman but he resigned as soon as he realised that in that role he could not do enough for the suffering poor. Therefore, he turned to the study of medicine and soon found out about the preventive significance of birth control. It was he who replaced the Malthusian ideology by the slogan: "no overpopulation IN THE FAMILY".

In addition to courage, Rutgers also possessed the *defauts des ses qualites*. According to his ideals an organisation with a couple of hundred members was no good.

He wanted to turn N.M.B. into a popular movement which could help the suffering masses, in the first place the women, in their distress. But Rutgers did not realise that for such a popular movement a sociological foundation was needed, which was still lacking in 1900, both with the people, whose "preventive attitude" or "motivation" was as yet insufficiently developed, and within the Dutch medical world.

When his colleagues did not provide him the help he had expected, Rutgers took a step which had far-reaching consequences for the development of N.M.B. In 1901 he started to train the so called "expert female collaborators". These were neither nurses nor widwives, as the historical papers on family planning dealing with the Netherlands pretend, but simple women of the working class to whom he taught, after a superficial theoretical instruction, how to fit a diaphragm.

After passing a kind of examination they obtained the right to give contraceptive advice on behalf of the N.M.B. Thus Dr. Rutgers managed within a few years to found dozens of "birth-control-centres" in all the bigger and smaller towns of the Netherlands, giving rise to the fairy tale that persists until this day that Holland abounds not only in milk, windmills and tulips, but also in birth control clinics.

Dr. Rutgers' actions led to serious repercussions, especially once when some of his "experts" indulged practising in abortion, just as his opponents had of course predicted. Although the League kept completely aloof and strongly refused any part in these activities, it had to take a great part of the blame.

The most serious consequence of all this was, however, that all the doctors, who so far had supported the organisation, with Dr. Aletta Jacobs at the top, dropped out of the League entirely and created thus the break between the Dutch family planning movement and the medical world, which could only be bridged in the thirties, when under the guidance of Dr. Ph. Tuyt, Dr. B. Premsele and the writer of this article, a successful trial for a new cooperation was undertaken.

Thus, after 1900, Dr. Aletta Jacobs stopped working for N.M.B. She was so disappointed by the development that for the rest of her life she exclusively worked for the emancipation of women within the framework of a political, cultural movement.

And in her memoirs she has not mentioned a single word about the glorious period of Tichelstreet.

A STUDY OF CURRENT ATTITUDES TOWARD FAMILY PLANNING

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Our country is pursuing an ambitious policy of intensive economic development for raising the present level of living of the people, which judging by civilized standards, is far from satisfactory. In the face of a rapid growth of population which is of the order of more than 2% per year, the planners apprehend that the objectives of the development schemes may not be realized unless the rate of growth of population is arrested and as a means to achieve this the practice of family planning has been advocated. This is no mean task, first because family planning in its modern sense is going to be a new experience in this country. Second, our social and cultural environments are divergent from those of the western countries where family planning has found general acceptance, which naturally imposes certain restrictions in our drawing on the large body of data pertaining to these countries for directing our action strategy.

Family planning programme, to be effective, has to be built upon a correct assessment of the attitudes of the people, for, it is believed that attitudes towards family size, the limitation and spacing of offspring, and attitudes toward the use of contraceptives have profound influence on the pattern of sexual behaviour. According to Balfour^{2*} "the most important elements in determining action for fertility control in any country are the knowledge and attitudes of the people and their decision to act in the regulation of family size". It is gratifying to note that the Planning Commission has given due importance to this aspect and has emphasized the need to collect base-line data as one of the essential steps for the promotion of family planning in this country. Such data may relate, among other things, to the following basic items of information: What is the general reaction of the population to the question of family planning? What are the views they hold regarding an ideal family size? To what extent are they aware that rational planning of family size is possible? Do those who are already aware of birth control methods practise them and what are their attitudes toward the use of these methods?

* References are given at the end of the article.

The intricate nature of the problem of measuring the attitudes and opinions on family planning has been highlighted by Stephan²³ when he says that "family formation and family planning is a very complex system of behaviour in which the attitudes toward planning and toward the use of contraceptives are very important subsystems, but not independent of the larger system in which they are part. The measurement of these attitudes is a part of the problem of measuring and explaining the entire system of family behaviour. Hence it might best be attempted as part of larger studies not limited to family planning but concerned with other problems of family growth, development and behaviour. A more fundamental scientific approach than what we are now using will be essential to the ultimate success of our inquiries". However, in recent years a number of field investigations (which might not strictly conform to the standards set by Stephen) have been initiated in this country by different agencies among selected population groups with a view to finding reasonable answers to the above and allied questions. In a previous communication¹⁸ the author has made an attempt to study the level of knowledge and practice of family planning on the basis of the results obtained from some of these inquiries. In this paper the discussion is mainly confined to the attitudes of the people to family size and its regulation.

Apart from the inadequacy of coverage referred to above, the widespread ignorance about modern methods of contraception makes most of the questions relating to the attitudes of couples toward the practice of birth control less realistic. However, questions on certain other aspects like the number of children desired, employment of women, husband-wife communication regarding the number of children they should have, etc., provide an indirect basis for studying the attitudes to family planning in general. Nevertheless, such direct and indirect questions as above could be more fruitfully employed for making an objective appraisal of the attitudes toward birth control among those who are already aware of some methods of family planning.

The question of attitude is closely linked with the type of social organization, customs, beliefs, etc. to which the people are accustomed. Though the Hindu society has changed in some respects, its basic structure has remained the same. Fertility is largely unplanned and economic considerations do not, as yet, seem to affect it, though among the upper social classes in large city populations there is evidence of a perceptible change in favour of family planning. Evidently, this is due to the fact that the people in the upper crusts of society are better informed about specific birth control methods. Also there has been a

loosening of the social and cultural taboos regarding the practice of family planning brought about by the impact of modern urban forces. In the circumstances, properly conceived and directed programmes for educating the population on suitable methods of birth control and also for inculcating the ideal of small families will have strategic value in the scheme of family planning promotion in the country. However, it may be emphasized that mere education on the different methods of contraception alone is not likely to bring about a complete transformation in the sexual behaviour of the couples as indicated by the results of some field studies. A parallel change in the social, economic, psychological, moral and cultural spheres should be effected in order to supply the necessary motive force.

For a proper evaluation of the attitudes toward family planning, it may be desirable to divide the discussion into two parts—one relating to the attitude of the people to family size and the other relating to their attitude to birth control. Both these attitudes may be said to be correlated in a subtle way. An attitude favouring a small family or approving birth control does not necessarily lead to adoption of family planning but such information may help in roughly demarcating the population sectors which are most likely to practise family planning. Those showing an unfavourable attitude, on the other hand, represent the hard-core of resistance to family planning. These two groups naturally call for different treatments during action programmes.

Attitude to family size

Though families are unplanned, the response to questions relating to family size or desire for additional children amply show that the attitude in this regard is not one of fatalism. The desire to have a restricted family size is obviously there, though notions of an ideal family size may differ from one group to another depending upon the social, economic and personal circumstances. For instance, the rural couples with traditional village culture may set a higher target for the optimum number of children a couple should have than their urban counterparts. Corroborating evidence to this is available in the surveys carried out in West Bengal and Mysore^{20, 4}. In the latter study, among women with 4 to 6 children, 59% in rural areas and 72% in Bangalore City did not desire more children. Furthermore, the males were found to be less keen in the matter of restricting the number of children, the corresponding percentages being 48 and 56 respectively. In view of the male dominance in the Indian household, this is suggestive of some effective opposition to the practice of contraception.

The situation, therefore, calls for a modified approach in which the males are to be made the primary target of motivation programmes rather than the females as is currently done¹⁷. The usual pattern of rural-urban differential with respect to desired family size is not, however, supported by the results of a study conducted by the All-India Institute of Hygiene and Public Health¹¹. This might be due to some peculiar local considerations.

The role of education in moulding one's attitude to family size deserves recognition. This is one of the factors in the observed rural-urban differential. Within the same residential groups also education was found to be an important factor being negatively correlated with desired family size^{14, 20}. Whether such sharp differentials exist in large cities which are a class by themselves is open to doubt. For example, in the fertility inquiry⁵ conducted by the All India Institute of Hygiene and Public Health in Calcutta City the number of children reported as optimum for a woman of 40 years was 3 in the two socio-economic groups (broadly classified on the basis of place of residence), even though it was observed that in these groups the average number of children born to women who had completed 40 years of age in the married state was between 5 and 6. In a subsequent inquiry¹⁶ also, no difference was observed in the ideal number of children reported by the husbands stratified into three social groups, viz., 2.7, 2.6 and 2.6 children in descending social status, though the lower classes were already having a larger number of children. The implication according to the authors of the report was that "the lower social class felt the existing family size to be rather large". This shows that aspirations for a small family size are present in all sections of society, although the underlying motives may be different. Those in the upper layers of society probably want to maintain at least the level of living to which they are accustomed, while the poorer ones may aspire for a certain standard of living denied to them on account of the prevailing economic circumstances. But does this indicate that the latter were ready to make conscious efforts for achieving their aspirations? Other evidences thrown out by the above investigation¹⁶ do not, however, support this. For instance, a significant proportion of those not practising contraception, who in this social category form a substantial bulk, did not want to learn a method in spite of their economic difficulties and desire for a small family. In this connection, the investigators themselves point out that "their desire for a small family was rather due to dire economic necessity than due to a shift in cultural values particularly those concerning the well-being of their children. These observations, therefore, give an indication of the

magnitude of the effort that has to be made in overcoming the resistance of the lower social classes to the adoption of modern contraceptive techniques for fertility control". If so much opposition is confronted in big cities like Calcutta where it is reasonable to assume that the traditional social and cultural values and norms of society might have undergone some modifications under the impact of peculiar urban forces, the opposition in the rural areas, where the basic structure of society had remained almost intact, is bound to be greater. If, therefore, efforts directed for the promotion of family planning among rural folks encounter rough weather there is nothing unusual about it. The desired change can come about only as a gradual process.

A closer examination of the desired number of children would reveal that there are a few considerations other than the mere number, closely linked with this desire. The greater preference for male children is a general and understandable feature running through all classes of Hindu society because of the high premium placed on male progeny. A recent family planning attitude survey conducted in a few villages near Delhi¹ showed that women generally preferred a 3:1 or 2:2 combination. Among Kanpur women¹⁴ giving 3 and 4 as ideal number of children the preference was for 2:1 and 2:2 combination respectively. In Kerala¹² the sex preference seemed to be evenly balanced, a majority of the couples desiring to have a 2 son-2 daughter combination. As the sex of the progeny is regulated by chance and not by choice, this sex-ratio bias tends to make the criterion of the ideal number of children for studying the attitudes of couples toward fertility control somewhat less realistic.

The extent of inter-spousal communication regarding the number of children they should have is an important consideration in the adoption of family planning. But in the Indian family setting with its joint family system and the segregation of sexes, it is to be expected that there is hardly any scope for a free and frank discussion between spouses particularly on matters relating to family size. Nonetheless, even without such explicit discussion with the husband, that the Indian wife is generally capable of ascertaining the reactions of the husband in regard to his desire for additional children, has been supported by the results of the Mysore Study⁴. For, it was found that 63% of the wives in Bangalore City with 1 to 3 children had stated that their husbands desired to have more children while, in fact, 68% of the husbands had expressed a similar desire. The corresponding percentages in the rural a were 74 and 83 respectively.

In the context of operation of the development schemes intended to improve the general lot of the community, the motivations underlying the attitude also. In the planning of long term family planning programmes. It may be argued that modifications in the personal situation as a result of the operation of the above programmes may affect the attitude also. In the planning of long term family planning programmes, therefore, this aspect may have to be given due consideration.

In a country like ours with a deplorably low level of living, more children would necessarily mean additional hardship to the family. Thus, it may be expected that many couples desire to regulate family size on economic grounds. This is evident from the various studies conducted in recent years^{1, 4, 6, 15} That the health of the wife is also an important secondary consideration in shaping the desire to restrict family size, has been stressed in these studies. In the prevailing circumstances, the above reasons may be equally important in both urban and rural areas. In addition, the rural women often express a desire to restrict their family size on account of their greater participation in extra-household activities.⁴

On the other hand, the beliefs such as more children make the home happier, are a source of help in old age and ensure family survival are associated with the desire for more children

Attitude to birth control

Mental attitudes favourable for a conscious control of fertility are needed for the success of family planning programmes. If these are absent or hostile to it, the mere availability of contraceptives, however effective and cheap they may be, is not likely to provide the necessary inducement for the people to adopt them²¹. In the Western countries the rapid spread of contraception was made possible largely by the change in the mental and psychological attitudes brought about by the large scale economic and social transformation since the latter part of the nineteenth century. On the other hand, in view of the possibilities of an early discovery of a suitable birth control method, e.g., an oral compound, the practice of which will not involve any of the botherations currently felt, it may be argued that a socio-economic transformation of the scale experienced by Western nations as a pre-condition to the widespread adoption of family planning may not be found necessary. For instance, Bunce⁸ thinks that under certain conditions without social changes, birth rates could decline. He says that "if a really simple method of family size control were developed,

much of the fatalistic feeling about the essential need for social change as a pre-requisite to a decline in the birth rate might disappear". While the above statement is generally commendable, one cannot yet safely predict that there will be such dramatic change in the sexual pattern merely on account of the development of a simple means of birth control.

Reference has already been made to the determination of the Government to popularize family planning for stabilizing population growth. It is, therefore, relevant in this context to make a general assessment of the attitudes of the people to the question of fertility control.

In this country, the population, particularly the rural, is believed to be generally hostile to the spread of contraception²¹. However, among the upper social groups of large cities contraception is practised to an appreciable extent¹⁶. On the other hand, the working class population in big urban-industrial centres, which will only tend to swell with the extension of industrial activities in the country, seem to have a positive aversion to the practice of contraception^{14, 16}. Sustained and concerted action would be required to bring about the desired psychological change leading to the adoption of birth control methods on an extensive scale among the lower sections of the population. In this connection, mention may be made of certain conditions such as a reasonable level of living and education, well-developed public health conditions, new possibilities of moving up in the social scale and emancipation of women, which must be satisfied before the conscience of the community is awakened to the problem of birth control.

The religious opposition to birth control may be rather weak in India^{1, 7}. Some others, though holding an opposite view, believe that the practice will eventually come to stay, as for example, according to Kingsley Davis¹¹ "in no country of the world has religious opposition been able to stop the diffusion of birth control any more than it has been able to stop the use of tobacco or alcohol". One of the factors in the rural-urban difference in the attitude to family planning is believed to be varying levels of knowledge regarding the methods of contraception. While knowledge of methods is an essential pre-condition to the practice of birth control, the actual practice is inhibited to a considerable degree by the prevailing situation as well as beliefs and notions regarding such practice and this has been highlighted by some of the recent studies. For instance, about 74% of women in the Delhi villages¹, about 60% of women in Kanpur City¹⁴ and about the same proportion of men in Trivandrum City¹² who had knowledge of specific

family planning methods did not practise them. As could be expected, the most important reason for non-practice among the rural women was lack of facilities; the desire to have more children and fear of after effects are the other important reasons. In Trivandrum City, on the other hand, the belief that the methods were not effective was the principal reason for not practising birth control. Cost of the material and the difficulty in its application are other important reasons. It would be of interest to point out here that those who are already aware of family planning are essentially a more sophisticated and, therefore, a selected group. If even among such a class there is opposition to birth control, the general attitudes of the masses to this question would certainly be one of positive antipathy. It has been observed that perhaps a greater degree of enlightenment and education are required for creating the necessary motivation for the practice of birth control^{8, 10}. That even after accepting the methods, there may be some resistance on the part of the acceptors to practise them, cannot be totally ignored as could be inferred from the results of a survey in a village near Madras⁶.

A number of inquiries have unmistakably pointed to the conclusion that a large majority of the couples are in favour of learning about family planning methods. However, such expressed willingness to learn about family planning has to be analysed in the light of existing gap between knowledge and practice. In this connection Agarwala's¹ observations are relevant. He observes that "the large difference between the proportion who knew a method and those using birth control, leads one to interpret the figures relating to willingness to learn a method with caution. It is quite likely that many who expressed willingness to learn would not use a method, even if facilities were made available to them". This appears to be a reasonable assessment of the current situation. Nevertheless, there are those who hold a more encouraging view of the prospects of family planning in this country. Commenting on the attitudes toward family planning, the authors of the report on Poona Survey⁷ point out that "the most significant fact about the situation, therefore, is that the larger number of persons, both males and females, in the city as well as the non-city area said that they would welcome information on the subject of family limitation and *the substantial number among them voluntarily said that they would immediately adopt the methods in practice.*" (Emphasis is mine.)

The influence of demographic and socio-economic factors on the attitudes of the couples to family planning has been considered at great length in a number of studies, notably the one conducted in the Nasik, Kolaba and Satara (North) districts²². It is generally

those in higher socio-economic levels show a greater degree of approval than those in the lower levels. It may, however, be pointed out that the expressed attitudes are not always translated into action, though they may permit a rough assessment of the potential users of family planning. Even under favourable conditions aversion to practise the methods has been observed^{6, 9}. The indication is that perhaps some problems of conscience and conflicts are involved, the correction of which would be a necessary pre-condition for the success of family planning promotion efforts.

In certain segments of the urban population, especially the higher social groups, that the practice of contraception is not entirely a recent innovation has been indicated by the results of some earlier studies. For instance, in an inquiry¹³ into the birth control practice among the middle class people of Bombay conducted about three decades ago, it was found that about one-third had used contraception. Notwithstanding the fact that the results appear to exaggerate the practice of contraception, it may be reasonably assumed that some sections of urban society were already giving serious thought to the problem of limiting the family size and had generally approved and accepted definite measures for its achievement. The manner in which the practice of contraception had progressed with time may be studied by making a suitable trend analysis. If adequate and comparable statistics are available it may also be possible to measure the impact of recent organized efforts by the Government for the promotion of family planning. In the Calcutta Study¹⁶ a definite trend was observable in the practice of contraception in the high social stratum. Another significant finding is related to the substantial increase in the proportion practising birth control in recent years among the lower social groups. This somewhat spectacular rise in the practice rate among the lower classes has been attributed partly to the diffusion of small family notion into them from the higher classes, a pattern found in Western societies, and partly to the pressure of economic circumstances acting as an impetus for the practice of birth control. However, the above study has not associated this change to the role of any medical or public health agencies like physicians or family planning clinics.

Before concluding, it may be appropriate to discuss briefly the validity of responses obtained in field inquiries to questions relating to attitudes toward birth control practice. In this connection it may be observed that as a majority of the subjects in India are ignorant of the modern methods of birth control, questions intended to elicit attitudes toward practice of birth control methods are largely academic in scope,

and the responses are, therefore, likely to be less real. It has to be recognized that one of the factors in the rural-urban gradient in the proportions approving birth control may be the difference in the degree of sophistication and knowledge of methods among the two groups. Amongst other factors which are likely to affect the validity of the response may be mentioned the inclination on the part of some of the respondents to please the investigators, the investigator-respondent age disparity, etc. As regards the latter, Das Gupta¹⁰ observes: "Matching of age distributions is perhaps more compelling for the reason that sex is not usually discussed freely across age barriers. A respondent of advanced age will consider it 'cheek' on the part of a youngster to ask questions on birth control, and a young respondent on the other hand will feel less free to talk birth control with an investigator old enough to be his parent".

Summary

In the evaluation of the attitudes of the couples toward family planning, two major areas of study, apparently inter-related, are usually recognized, viz., attitude toward family size and attitude toward practice of birth control. A number of attitude surveys have been carried out in India in recent years which have thrown useful light on the above aspects and some of the implications of the survey findings have been briefly discussed in the foregoing paragraphs.

Summing up, it may be stated that there already exists a widespread desire to regulate family size. Although couples in high social status in big city areas seem to make some conscious efforts to limit their families, those in lower layers of society show peculiar aversion to the practice of birth control. The few among the latter who practise, do so perhaps on account of dire economic necessity. In the absence of parallel changes in the social mores and attitudes, the observed practice is not expected to take firm roots in the sexual pattern of this class of the population.

The degree of approval of contraceptive practice has been found to vary with knowledge of specific methods of contraception. In the circumstances, steps to familiarize couples with the various birth control methods will have strategic importance in family planning promotion efforts. However, it may be remembered that education on the methods alone does not necessarily lead to action if the required motivation is weak or absent, for, certain field studies have shown that a sizeable proportion of women who profess knowledge do not practise. Further,

even when supplies are made available to them, there are practical difficulties in their effective practice. Agarwala¹ has correctly diagnosed the situation as one in which mere availability of contraceptive methods might not lead to action on the part of women. Several restraining forces may be in operation. For instance, some studies reported that a number of women were apprehensive of their husbands' opposition to the practice of birth control. In view of the dominance of the male in the Indian family structure, this underlines the necessity of making the male the primary target of educational and motivation programmes. Other factors which preclude possibilities of birth control practice are related to the fear of after effects, scepticism regarding effectiveness of the methods, high cost and lack of facilities for using them, the last one being particularly true of rural areas. Most of these are amenable to correction by properly organized educational campaigns and by creating such conditions which will help to rouse the conscience of the people to the problems of birth control.

Moreover, a consideration of the validity of the results of attitude surveys will help to arrive at a more objective assessment of the facts of the situation. A number of factors are involved which tend to affect the validity of the recorded information. For instance, conditions being what they are, a large majority of our population are ignorant of modern methods of birth control. To this extent, their response to questions relating to family planning can only be of academic value. Secondly, in view of the personal and intimate nature of the subject matter of investigation, reliable data may not be forthcoming. Thirdly, lack of respondent-investigator correspondence may tend to introduce bias in the data collected. Fourthly, the respondent's efforts to please the interviewer — which cannot be entirely ruled out — will influence the reliability of the data. The effect, if at all, of this factor is to swell the proportion with favourable attitudes. It is, therefore, important to bear in mind the influence of the above and other factors on the findings of attitude surveys so that they may be effectively utilized for initiating plans for the promotion of family planning in the country.

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WHY ARE WOMEN LIVING LONGER

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In economically and socially advanced countries, the population has a significant surplus of females over the number of males. Typical examples of populations showing surplus of females are given in Table I.

Table I

Sex distribution in populations of advanced countries

Country	No. of males (millions)	No. of females (millions)
U.S.A.	88.33	90.99
England & Wales	22.18	23.69
Japan	45.82	47.53

This surplus of female population is in the higher age group and is due to the longer life-span of females when compared with that of males.

Table II

*Expectation of life at birth of the two sexes in advanced countries
(in years)*

Country	Males	Females
U.S.A.	66.5	73.0
England & Wales	68.3	74.1
Japan	65.2	69.9

It is proposed to present here a biological explanation for the relatively longer life-span of the modern human female.

The larger size, strength and energy of men, in comparison with women, were acquired during primeval times and have subsequently been augmented, chiefly through the contests of rival males for the possession of the females. In view of the more aggressive and consequently more energy-consuming nature of activity of the males, the energy requirement of a male body is relatively greater than that of

a female. By contrast, women spend relatively less energy because of the passive role that is theirs. In this manner, the male physique has come to acquire a quicker rate of energy turn over than that of the female.

All activities of living things are dependent upon the fundamental processes of tissue oxidation which are grouped under the name metabolism. The gross energy equivalent of these processes in a state of rest is known in physiology as the basal metabolic rate (B.M.R.). Thus, physiologically speaking, the male has a higher metabolic rate than the female. The basal metabolic rates of the two sexes have been determined experimentally by the quantity of oxygen consumed from a closed circuit. The statistical average of some of these values at different ages may be seen in Table III.

Table III

*Basal metabolic rates of the two sexes at different ages
in calories/sq. metres/hr.**

Age (yrs.)	B. M. R. males	B. M. R. females	Age (yrs.)	B. M. R. males	B. M. R. females
3	60.1	54.5	40	36.5	34.3
10	47.7	44.9	50	36.0	33.4
20	39.8	35.2	60	34.8	32.4
30	37.6	35.0	70	33.1	31.3

* Data relating to the U.S.A.

Roughly speaking, it may be said that in the early years of life males consume energy at a rate 10% faster than females. Although the gap narrows down after maturity, some difference persists throughout the life period. It is by virtue of this slower expenditure of energy that women live longer.

There is evidence in the realm of biology that longevity is correlated to metabolism, and ageing is related to the rate of energy turn over. The "rate of living" has a direct action on the metabolic rate. There is sufficient data in the animal kingdom to suggest that, on an average, each species can transform and expend no more than a certain fixed quantity of energy during their specific life-time. As and when the fixed quantity of energy is expended, life comes to an end. Since man lives at a faster pace, he consumes his own quota of energy quicker and dies early. Women, by virtue of their inherently slower

energy out turn, make their quota last longer. Men, as it were, burn themselves up faster.

At first sight, the lower metabolic rate of females would appear to be one of nature's unexplained mysteries. But closer examination would reveal that there is adequate biological explanation for this differential. The main difference in the biological function of man and woman is that the latter has to bear children. Since multiplication of species is of foremost importance in biological evolution, it is not surprising that nature makes adequate provision for this.

Child bearing is an arduous biological process requiring a rise in the energy output of the mother. The total metabolic rate of the pregnant woman is increased by 5 to 25 per cent. Although the basal metabolic rate of the material tissue is probably unaltered, there is an extra energy requirement for the foetal metabolism. Thus the reserve of the female metabolism comes into play during pregnancy. The lower metabolic rate of females is, therefore, related to their capacity for reproduction. When a woman has her full quota of child bearing, she spends her energy reserve and her longevity would probably be the same as that of a male. A hypothetical illustration will make the explanation clear.

Let us assume that a woman expends energy at a rate which is 10% slower than that of a man. Her longevity should, then, be 10% more than that of the man. Assuming man's longevity to be the biblical three score years and ten, the woman should live 77 years, if she had no children. Let us assume, quite arbitrarily, that a woman is capable of giving birth to a maximum of 15 children during the whole course of her reproductive life. If she gave birth to her full complement of 15 children, she would have used up her extra 10% of energy reserve and her life span would have been the same as that of the man. Let us now examine the case of a woman who gives birth to three children instead of her full complement. She, then, uses up only a fifth of her extra energy reserve and leaves unutilised four-fifths of this, which goes to extend her life-span. Thus, the longevity of the woman with three children would be 75.6 years.

In Western countries contraception is practised extensively for economic as well as social reasons and the size of the family is strictly limited. The potentiality of reproduction in females is utilised only to a small fraction of the full capacity. Only a small percentage of the total energy turn over of females is, therefore, used for reproduction. And the surplus capacity arising out of control of reproduction re-

mains unutilised. This leads to the longer life-span of the females. Thus, there is definite reason to suggest that the longer life-span of females in Western countries is the consequence of the restraint on reproduction and this, in turn, leads to relative surplus of females in the population of economically and socially advanced countries.

In Table IV typical demographic examples of increase of life-span of females with decreasing fertility are given.

TABLE IV

Increasing life expectancy of females with decreasing fertility, in selected countries

Country	Fertility per 1000 female population	Total life expectancy of females at age of 50 yrs.
Sweden	49.5	78.18
U.S.A.	85.2	77.50
Chile	112.4	73.58
Mexico	149.5	69.99

Since, with social progress, female population increases because of family limitation leading to longer life-span of females, sex ratio of any population could be an indirect test of its social progress. According to this test, the larger the surplus of females in any population, the more advanced is the society.

FAMILY PLANNING PROGRAM IN THE JAPANESE NATIONAL RAILWAYS*

(A Sample of Guidance for Large Population Group)

YOSHIO KOYA, M.D.,

(Adviser to Japanese National Railways)

1. I contributed to the Milbank Memorial Fund Quarterly, July 1962, an article entitled, "Family Planning in a Large Population Group" with a sub-title, "The Case of Japanese National Railways". In this article I described how I had tackled the large population group of the National Railways in Japan which have some 500,000 employees covering 290,000 households. The reason why I attempted to describe the procedure in disseminating family planning in detail was that it must be helpful for leaders in other countries, particularly Asia, India and Pakistan, because I knew that the population growth in these countries was surprisingly rapid, and that leaders in family planning in these countries are dealing with so large a number of people with the assistance of a relatively small number of case workers.

So far, I have conducted several experiments in villages, enterprizes and slum-districts. For these experiments, it was expedient and sufficient to use some physicians on my staff. But, for such a large population group as in the Japanese National Railways, I found that it was absolutely necessary to establish an administrative set-up with guiding teams for family planning, first of all. The Japanese National Railways is a public corporation of a semi-governmental nature, and has 34 Branch Offices throughout this country. So, I asked every office to set up a committee (I was the Honorary Consultant to the JNR). The most important idea for organizing the committee was that the Head of the Regional Office of the JNR should also be the head of the committee of family planning. By this arrangement we could succeed in convincing the employees of the company that this program carried as much weight as the routine work of the JNR. The committee consisted of many important persons in that area, such as, Heads of the Women's Club and the Labour Union of the Company and the Director of the Hospital attached to the Regional Office. The Chief of the Health Department of the office was appointed as an Executive Officer for this program. He mapped out plans, budgetary as well as personnel,

* Paper presented at the Seventh International Conference on Planned Parenthood at Singapore, 1963.

to be discussed by the committee. I hope you will notice that this sort of management would contribute much to create a favourable atmosphere around the program.

We have now only 160 full-time case workers. They are midwives who passed the state examination in family planning. Each case worker was called upon to take care of 400 households. She has to do home visits, provide supplies, keep records, hear troubles of every nature about contraception. In addition, such case workers should be managers for several sorts of meetings; for example, the one to hear what experts from the central office have to say and the one to discuss the use of a certain method. However, the fact is that they are carrying out their job quite satisfactorily, assisted by members of the Women's Club, and sometimes those of the Labour Union. It is our general impression that the majority of the members of the Women's Club are quite sympathetic towards the program and pleased to assist the case workers. This is partly because the majority of them are nothing but those who should receive guidance further. What is of vital significance in this connection is that the Mutual Aid Association of JNR proposed recently to pay all the cost of contraceptives, becoming aware of the value and benefit of this program. They used to say: this management is not against the regulation of Health Insurance Law, because they realise that the infant mortality has decreased to a considerable degree since the program started. (I think that they also have come to notice that the expenditure of the fund of the Association has been saved since the number of births began to decline.)

I reported in an article the results of 9,282 cohort wives who received our guidance for three years continuously in comparison with the results of one-year guidance. I showed the increasing number of contraceptors, as well as the birth rates, and the number of abortions with the passage of guiding years.

2. One year has passed since then. The number of wives under 50 years of age who received our instruction has amounted to some 110,000, as of end of 1962, and those who were under our sustained guidance and provided with contraceptives have reached 16,976. It is noted, however, that as this report is based on a retrospective observation of a cohort population, the figure does not include the households that joined this program after 1960 and those which joined before 1958, because the former have not quite completed three years of instruction, while the latter dropped off from the program (the JNR program is to continue giving supplies for three years as a rule; those who

have finished the three year program will be left to look after themselves).

For the study of this time, I prepared many tables which would furnish more detailed information than the report I made before in the stated article. I also calculated pregnancy rates for every year, but they were not necessarily done in a perfect way; in other words, we could not make the case workers repeat home visits for the 16,976 households to obtain needed information for a more correct calculation of the rate. I did it on the assumption that they have been living always together.

First of all, I will show how and in what percentage the households using contraceptives have generally shifted with the progress of guidance in family planning. This is shown in Table I, as classified by age composition.

As will be noted, there were 8,493 out of 16,976, or about a half of the total, households practising contraception before the program. This number of contraceptors increased to 13,611 or 84.1 per cent at the end of the first year of guidance, to 14,097 or 84.1 per cent at the end of the second year, and to 14,503 or 85.3 per cent at the end of the third year. This is considered to be a fairly good success, and at the same time instructive, because the results suggested that the information and education on family planning should be given to all the couples in fertile ages, disregarding whether or not they were in need of contraception. In other words, it became clear that some of them who received instruction in family planning might become contraceptors, eventually, if not immediately.

Examining the distribution of households by age and its change with the progress of guidance, we then noticed that the proportion was highest at the age group of 30-34, and that this proportion changed but little even though the number of contraceptors increased. In contrast to this, the proportion in the lower age bracket showed a somewhat increasing tendency. This may be due to the fact that some portion of the group of that age bracket, influenced by the guidance, inclined to be satisfied with fewer children.

I also considered the reasons behind the evasion of contraception. The number of non-contraceptors was 8,483 in the year before the implementation of the program. This decreased to 2,473 at the last stage of guidance. It may be mentioned in this connection that the proportion of non-contraceptors, as classified by reasons, is shown in Table 2.

TABLE 1
*Number and percentage, by age, of householders using and
 not using contraceptives*

Age	Contraceptive		Total	Percentage of users
	Users	Non-users		
One year before the guidance				
19 & Under		5	5	
20 - 24	69	153	222	0.8
25 - 29	1,116	2,018	3,134	13.1
30 - 34	3,330	3,296	6,626	39.0
35 - 39	2,529	1,659	4,188	30.0
40 - 44	1,071	859	1,930	13.0
45 - 50	378	493	971	4.1
Total	8,493	8,483	16,976	100.0
After one year of guidance				
19 & Under	3		3	0.1
20 - 24	102	118	220	0.8
25 - 29	2,245	869	3,114	16.5
30 - 34	5,558	1,111	6,669	40.8
35 - 39	3,731	512	4,243	27.4
40 - 44	1,475	374	1,849	10.7
45 - 50	497	381	878	3.7
Total	13,611	3,365	16,976	100.0
After two years of guidance				
19 & Under				
20 - 24	128	89	217	0.7
25 - 29	2,388	704	3,092	16.9
30 - 34	5,777	892	6,669	40.9
35 - 39	3,817	439	4,256	27.3
40 - 44	1,493	364	1,857	10.7
44 - 50	494	391	886	3.5
Total	14,097	2,879	16,976	100.0
After third years of guidance				
19 & Under				
20 - 24	142	70	202	1.0
25 - 29	2,498	365	3,063	17.1
30 - 34	5,915	709	6,624	40.8
35 - 39	3,845	391	4,236	26.5
40 - 44	1,594	347	856	11.0
45 - 50	509	381	725	3.6
Total	14,503	2,473	16,976	100.0

TABLE 2

Proportion of non-contraceptors by reasons, before and after the program

		Before the initiation of the program (%)	After three years' guidance (%)
Desire for children	moral reasons	0.9	0
		36.0	30.6
	r delivery	17.5	13.8
Due to lack of current information and education	In the belief that birth control is harmful for health	2.7	0.8
	Lack of sufficient knowledge of the methods	10.5	2.2
	Because the practice Under the impression that no reliable methods exist	34.2	19.0
		4.0	2.0
	is too troublesome	16.0	14.0
	Due to indifference	1.0	0
No pregnancy for more than three years after delivery		2.0	9.1
Considered to be congenital sterility		4.5	10.4
Possibly they had reached menopause		2.8	11.9
Others		2.1	5.2
Total		100.0	100.0

It may be noticed from Table 2 that before the program there were 34.2 per cent of non-contraceptors who refrained from practising contraception for lack of adequate information about family planning and its methods. This proportion decreased to 19.0 per cent after three years of guidance. The decrease of the proportion, from 36.0 to 30.6 in the case of those desiring children from 38 to 30 percent may be considered reasonable, because there would be some who must have entered the climacteric stage in life. It is significant, however, that there was some

increase in the number of persons who did not practise contraception due to the belief that they were suffering from sterility, either congenital or posteriori. This reminds me of the opinion prevailing in present-day Japan which says that induced abortion, if repeated, would cause sterility. I think this is one of the most important items that deserve further research on a wide scale.

In addition to these observations, there is one thing which merits attention: that the persons who did not practise contraception for religious or moral reasons have almost completely disappeared.

Taking the opportunity, I also observed what sort of contraceptives were used by the households. Table 3 shows the proportion of them as well as the change during the period of guidance.

TABLE 3
*Change and proportion of contraceptives used during the
guiding period*

Methods	Before the program	Second year of guidance	First year of guidance	Third year of guidance
	%	%	%	%
Safe period	28.9	20.7	17.9	18.0
Diaphragm	3.5	8.0	7.8	9.0
Condom	47.5	40.0	39.2	40.1
Withdrawal	5.0	4.6	1.1	1.1
Jelly	8.2	23.8	23.9	19.1
Basic basal temp.	2.3	5.9	6.0	7.8
Foam tablets	3.3	2.7	3.7	4.3
Sponge	0.2	0.02	0.01	0
Douche	0.2	0.03	0.1	0.1
Others	0.9	0.3	0.3	0.3

Note: The computation was done on the basis of the number of times contraceptives were used, in other words if one person used a diaphragm with jelly, each was included in the corresponding number, from which the proportion was calculated.

Some characteristic tendencies observable from the above Table are that the proportion of the safe period method is far smaller than that of the average figure for Japan, and that it decreased with the progress of guidance. This may be considered due to our guidance, because I explained to those concerned very frequently how difficult it was to use this method without failure, showing them the results of our survey, which indicated that about one third of the failures of conception control was due to the incorrect use of the safe period. It also is interesting to

note that the use of basic temperature method has increased. One of the other features of this group is that the percentage use of condom is much lower than the average percentage. It is well known that the condom-users account for 70.75 per cent in Japan. Another thing worthy of note is a slight increase in the use of foam tablets and a decrease in the use of the sponge method. The former might have shown further increase, if the amended sample (with a hole) had appeared in the market. Actually, it did not appear until the completion of the guidance.

3. Let us now give the whole picture of our achievements with the 110,000 households of JNR. This is summarized in Table 4. In this table one may notice that many kinds of indicators of the reproductive activities of the wives concerned showed a remarkable improvement in family planning, even though this group included a certain percentage of non-contraceptors.

For example, the pregnancy rate per 100 households and the rate calculated after the Stix and Notestein method were 34.2 and 42.8 respectively before the program, whereas the former decreased to 15.4 and the latter to 17.0 in the third year of guidance. The birth rate also decreased from 35.6 to 16.4 during the stated interval. Of course we cannot see the pure effect of the program in this way, because the people who were under our first year of guidance may have even included some who had been pregnant before they received the instruction. The pure effect of the program, therefore, may be seen in the figures for the second and third year of guidance. The pregnancy rate per 100 households decreased from 23.4 to 15.4, and where the Stix-Notestein method was applied, the rate dropped from 27.1 to 17.0 in one year. This means a 30-35 per cent decrease. As regards the birth rate per 1,000 population, it was 22.0 in the second year, whereas it declined to 16.4 in the third year of guidance. This shows a reduction by some 26 per cent. However, there would be an argument that not all of this decline can be attributed to the program, inasmuch as some decrease in the pregnancy rate, not to say the birth rate, in a closed cohort population can occur even in the absence of guidance. However, since the percentage of contraceptors under 40 years of age was 85.4 even in the third year of guidance, the time interval was too small to have an appreciable influence on their fecundity.

It may also be mentioned that the number as well as the rate of induced abortions showed a remarkable decreasing tendency during the second and third year of guidance.

TABLE 4

Transition of results with passage of guidance for all the households, including non-contraceptors

	Year before program	First Year of guidance	Second year of guidance	Third year of guidance
No. of households	16,976	16,976	16,976	16,976
No. of pregnancies	5,811	5,162	3,989	2,616
No. of births	2,952	2,389	1,825	1,361
No. of induced abortions	1,334	1,559	1,328	837
No. of pregnancies per 100 households	34.2	30.4	23.4	15.4
Pregnancy rate Stix-Notestein (1)	42.8	36.7	27.1	17.0
Crude birth rate per 1,000 population	35.6	28.8	22.0	16.4
Abortion rate of Japan per 1,000 population	16.1	18.1	16.0	10.1
Estimated rate of induced abortion of Japan per 1,000 population (2)	18.5	18.6	17.7	17.1

Notes : (1) Pregnancy rate (Stix-Notestein) is calculated on the assumption that all couples have been living together through the guiding years.

(2) Estimated rate of induced abortion of Japan is calculated as if the actual number of it would increase by 50 per cent at least, when those not reported officially are added. (See the procedure of calculation given in the First Chapter of my monograph, "Pioneering in Family Planning")

Analysing the above figures given in Table 4, is quite instructive. This is shown in Table 5. You can see in this table a striking contrast between the figures produced from contraceptors and non-contraceptors. You also learn the fact that there exists a remarkable influence of education given to the non-contraceptors.

Where the users of contraceptives (in Table 5) are concerned :

1. The number of pregnancies, its rate per 100 households, and also the one calculated after the method of Stix-Notestein show a much

more rapid decrease than the corresponding figures we have seen for the whole group of wives numbering 16,976. The pregnancy rate after Stix-Notestein, for example, for the 14,503 contraceptors found in the last year of guidance, is 14.3, whereas it is 17.0 for the whole group including the 2,473 non-contraceptors.

2. The pregnancy rate per 100 households dropped to as low as 13.2 in the last year of guidance. The rate of decrease from the second year to the third year of guidance, is 29 per cent. Incidentally the decreasing rate of pregnancy after Stix-Notestein is 34 per cent during the year.

3. A similar tendency is observed in the crude birth rate, too. It fell to 14.1 in the last year of guidance, whereas the corresponding rate for the whole group fell to 16.4. The rate of decrease from the second year to the third year is 34 per cent.

4. The number of induced abortions decreased very rapidly due to our guidance, in particular, from the second year to the third year. The rate of decrease is 36 per cent.

Where the non-contraceptors are concerned :

1. Although the number and rates of several indicators are much higher than those for contraceptors, in general, you can clearly realise that the effect of instruction we gave to the whole group of wives disregarding that the group included many people who were not practising contraception for due reasons, was very great. In other words, even for the non-contraceptor group, the decreasing rate after Stix-Notestein from the second to the third year, is some 30 per cent, and the corresponding rate for crude birth rate is 23 per cent. These figures are much higher than expected. The reason for the conspicuous decrease may be partly attributable to the fact that some of them had been using contraceptives purchased from other sources and did not receive from our case workers saying that they were not practising contraception. I have a reason for this doubt from observation of the wives of the high class employees in the company.

2. It is notable that the number of non-contraceptors did not decrease as conspicuously as the other figures did, even in the last period of guidance. This may be interpreted as that the majority of the rest of the wives could not raise sufficient number of children as desired. The remarkable decrease in the number and rate of induced abortions tells the situation, I believe.

TABLE 5

Results of guidance of contraceptors and non-contraceptors

	Year before guidance	First Year of guidance	Second year of guidance	Third year of guidance
		Contraceptive Users		
No. of households	8,493	13,611	14,097	14,503
No. of pregnancies	2,495	3,359	2,607	1,916
Pregnancy rate per 100 households	29.3	24.6	18.4	13.2
Pregnancy rate (Stix- Notestein)	35.3	28.8	21.6	14.3
No. of births	1,183	1,687	1,298	985
Birth rate per 1,000 population	29.0	25.8	18.5	14.1
No. of induced abortions	851	1,200	1,117	753
Abortion rate per 100 households	10.0	8.8	7.9	5.1
Others (still births, miscarriages, induced abortions not reported)	465	472	292	178
		Non-contraceptors		
No. of households	8,483	3,365	2,879	2,473
No. of pregnancies	3,316	1,803	1,282	700
Pregnancy rate per 100 households	39.0	53.3	44.5	28.3
Pregnancy rate (Stix- Notestein)	51.1	55.4	48.6	34.1
No. of births	1,769	702	527	376
Birth rate per 1,000 population	43.4	46.3	37.6	22.5
No. of induced abortions	483	359	211	84
Abortion rate per 100 households	20.0	10.5	7.3	4.0
Others (still births, miscarriages, induced abortions not reported)	1,064	742	544	240

Annex

**Pattern of the Administrative Set-up of the Family Planning Program
of the Japanese National Railways**

(Covering 1600 Households)

The Central Governing Office of National Railways

Consultant

↓
Regional Office
of National Rly.

↓
Regional Committee of family
planning covering 1,600 households

**HEAD, REG.
OFFICE
OF
JNR**

Organization :

Chairman
Head of Women's Club
Chairman of Labor Union
Director, Reg. JNR—
Hospital
Others

Activities :

General supervision of
activities
Final decision of financial
office
and personnel affairs
Report of the annual
results to the central office

**Welfare
Division**

Executive Office in Family Planning

**Head of
the Dev.**

Organization :

Chairman
Several staff members
of the Welfare Div.
(Some for training
program
Some for financial
care,
Some for home-visits,
and meetings, etc.)

Activities :

Establishment of budget-
ary drafts
Appointment of case
workers and training
them
Collection of records
from case workers
about the results of
family planning, etc.

**Other
Divi-
sions**

**Staff on
the Divi-
sion**

Assistants

Staff Members of Rly.
—Hospital
(For technical
advice)

A case worker in charge
of about 400 house-
holds.

Members of
Women's Club

Work : Home-visits, Sup-
plies, Record-keeping,
Arrangement of group
meetings, large or
small, etc.

The The The
same same same

Members of
Labour Union

CULTURE AND HUMAN FERTILITY IN INDIA

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The social structure and value systems of societies, primitive, agrarian or industrial, have an important bearing on the fertility levels of its people. A study of the different cultures and their levels of fertility at different stages of development have shown that while certain cultures promote the attainment and maintenance of high fertility levels, certain others try to keep it low.

In recent years several theories have been formulated in an attempt to discover the cultural factors that have a specific relationship to human fertility in non-industrial societies.

The extensive researches of Carr-Saunders led him to the conclusion that the "evolution of human culture brought a universal tendency toward the maintenance of an 'optimum population' appropriate to the resources of each area and the economic technology of its occupants"¹.

Another theory propounded by some of the American demographers primarily based on their study of agrarian societies in Asia, says that societies with a high rate of mortality follow certain cultural practices which would ensure a high rate of fertility. "Their religious doctrines, moral codes, laws, education, community customs, marriage habits and family organization are all focussed toward maintaining high fertility"².

The Institute of Human Relationship at the Yale University has put forth the theory that "if people are to reproduce, social life must offer enough rewards (promises of security, prestige and approval) for bearing children to outweigh the punishments (the pain, suffering and anxieties connected with child birth) involved in reproduction"³.

Some anthropologists of modern times approach this problem on the basis of the theory that "various elements of the culture of any society must interact to provide an adequate basis for some degree of social stability. They have tried to examine the functions of social institutions and their relation to other factors in the society"⁴.

1. A. M. Carr-Saunders : *The Population Problem* as quoted by Frank Lorimer and Others in *Culture and Human Fertility*, UNESCO (1954), p. 15.

2. *Loco. Cit.*, p. 17.

3. *Loco. Cit.*, p. 17.

4. Frank Lorimer and Others, *Loco. Cit.*, p. 20.

Among the above mentioned theories, the fourth one emphasising "social stability" seems to be applicable to the Indian society. The Indian culture seems to be one which puts a premium on "social stability" at the expense of social progress. This social stability was achieved through the caste system, the joint family system, respect for religion, customs and traditions, and by its peculiar attitudes toward women, sex and children.

The Hindu culture which aimed at social stability, influenced the reproductive pattern of this sub-continent in various ways. There were and still are some forces which promote high birth rates and certain others which try to keep it low. The following are some of the cultural factors which promoted high fertility.

In a society where joint family was the rule, the joint family, rather than the individual, was and still is to a certain extent, the primary unit in the Hindu society. Hence, marriages are arranged by the family and the sexual behaviour of the individual is very much influenced by his membership in the joint family. More often than not, a member of the extended family does not have to search bread for those whom he breeds. The birth of a child is always welcomed, particularly so if it is a boy, for he adds to the strength of the family and the prestige of the head of the family as one with a large number of dependents.

The great law giver of the Hindus, Manu, suggested four different stages through which a member of the Hindu society has necessarily to pass, one of which being '*grahasthashrama*' (householder), thereby, making marriage almost obligatory for every one. The religious motive behind universal marriage becomes clear when one understands the meaning of the word *putra* or son. "The Sanskrit word for son, '*putra*' means literally one who saves from *puth* or hell, the hell into which all parents without sons fall"⁵. The keenly felt necessity for a son resulted in early and universal marriages followed by high fertility rates.

Another reason for early marriage was the respectability attached to virginity. It was considered "safe" to arrange the marriage of a girl before anyone gets even a chance to suspect her virginity. It was also believed that "the father or guardian incurs the sin of destroying an embryo at each appearance of menses as long as the girl is unmarried after puberty⁶.

5. Abbe J Dubois & H. K. Beauchamp, *Hindu Customs and Ceremonies*, Third Edition, Oxford (1906), p. 206.

6. K. M. Kapadia, *Marriage and Family in India*, Oxford University Press, (1958). p. 139.

Yet another reason for early marriages was the notion that "no maiden could be considered pure if she feels love for a man other than the one to whom she might get married. If she does so, it is a sin"⁷

Moslem invasions in the 12th and 13th centuries also promoted the practice of early marriage, because married women were seldom carried away by the invaders.

Thus early and universal marriage became a significant characteristic of the Hindu society. A proverb prevalent among some of the caste Hindus of Kerala in South India says that "a girl should be given away in marriage even to a *Paraya* (an untouchable) after she is sixteen"⁸.

The status of women in the society has its impact on reproductive rates. The ancient scriptures of the Hindus say that "marriage is not for lust but for domestic life and progeny, so that the Aryan mode of life may be continued for ever"⁹. In Rig Veda, the great scripture of the Hindus, the bridegroom prays to the God, Indra, to "make the bride the mother of good and lucky children, bless her to get 10 children and make the husband the 11th one"¹⁰. The purpose of life for a woman came to be looked upon as bearing children and looking after the husband. Women of India tried to do their best in both these roles assigned to them. This determined the particular status of women in India which was very much a factor contributing to the high fertility rate.

The status of women in the modern Western culture stands in marked contrast to the one mentioned above. "The evidence collected from younger housewives makes it abundantly clear that the awakening of women which has inspired a desire not only to have a share in life's social pleasure, but to participate in activities outside their homes, has been an influential factor in the limitation of families"¹¹.

Lack of opportunity and social opprobrium attached to free mingling between the sexes has affected the sexual behaviour and reproductive pattern of the Hindus. The definition given to adultery in some of the old writings included "addressing other men's wives in lonely places,

7. S. V. Ketkar, *The History of Caste in India*, Amraoti, India (1909), p. 32.

8. T. J. Samuel, Report on an attitude survey in a Kerala village, *The Journal of Family Welfare*, Bombay, Vol. VII, No. 1.

9. S. V. Venkateswara, *Indian Culture through the Ages*, Longmans Green and Co., London, (1948).

10. S. Chandrasekhar, *Population and Planned Parenthood in India*, G. Allen & Unwin (1955), London, p. 55.

11. L. S. Florence, Britain and her Birth rate, *The Economic Journal*, London, January, 1946.

offering them presents, romping with them, touching their ornaments and dress, sitting with them, touching them improperly etc."¹². This definition of adultery may be compared to the value systems of advanced countries in the West where men and women mingle freely especially in the years that intervene between puberty and marriage. At the same time, the Western culture imposes sanctions on maternity out of marriage. The free availability of contraceptives coupled with the desire for sexual pleasure enables them to become familiar with contraceptives which could be of much help later, in their married life.

There were certain factors in Indian culture which applied brakes on high fertility. Despite early marriages, the practice of the consummation of marriage taking place at a later date and the fewer chances of establishing sexual relations in the early years of marriage due to the strict surveillance of the elder members of the family headed by the mother-in-law of the bride, were of some importance. To have a child soon after marriage was frowned upon. All this reduced the prospects of early child birth.

According to the principles of the '*Varnashramadharma*' or the caste system, the social status of an individual is irrevocably decided at his birth and there is no freedom to marry outside the caste in which one was born. The caste system, by its insistence on endogamy, tended to lower fertility rates very often and helped to keep it there. "By the rigid division of the society into water-tight compartments, it remained a hindrance to the attainment of sexual parity as the deficiency in one caste cannot be remedied by the superabundance in another"¹³. This led to the practice of the dowry system and even to the infanticide of girls, both of which had a depressing effect on fertility, the former by postponement of marriages owing to financial difficulties and the latter by reducing the number of females in the total population.

Apart from the lowering of fertility due to the lack of sexual parity, the ban on widow remarriage so effectively enforced by the customs and traditions of certain castes like the brahmins, has been a major factor in lowering the levels of fertility among these castes. In 1952, while the number of children below 6 years of age per 1000 married women in the age group of 14-43 was 967 for Brahmins, it was 1075 for tribal people and 1033 for '*panchamas*' (untouchables)¹⁴. Assuming the rate

12. S. V. Ketkar, *Loco. Cit.*, p. 150.

13. Jathar and Berl, *Indian Economics*, Vol. 1, Oxford University Press (1942), p. 101.

14. Kingsly Davis, *Population of India and Pakistan*, Princeton University Press, Princeton (1951), p. 73.

of miscarriages and infantile mortality were the same for all castes, this difference in fertility on the basis of the caste can be explained by the number of widows among the different castes per 1000 married women. For Brahmins it was 235 while it was only 119 for tribal people and 127 for the 'panchamas'¹⁵.

The sexual behaviour of the Hindus is also influenced by religious rules which lay down as to when a husband should meet his wife physically. A study made by WHO in Delhi and Mysore shows that the Hindus observed sexual abstinence during certain periods. Avoidance of coitus during religious festivals was reported by 50% of the persons interviewed. "The phase of the moon plays an important role here. New moon days, full moon days, and *Ekadashi* i.e., the eleventh day after the new or full moon, were mentioned by some. Some mentioned the avoidance of coitus on Sunday, Monday and Saturday. The days when a man had a shave and a bath, days of solar and lunar eclipses, days of sowing the fields were also mentioned in some cases. The number of days of avoidance for religious reasons mentioned by individuals ranged from 2 to 120 per year in Ramanagaram (Mysore) and from 1 to 79 in Lodi colony (New Delhi)"¹⁶. Abstinence is reported to have been invariably practised during the period of lactation for 3 to 6 months.

Fertility levels of religious minorities like Moslems, Christians, and Parsis show some variations from that of the Hindus.

The orthodox Moslems believe that the primary purpose of human life is the generation of new life. Mohammed is recorded as having said, "Marry and generate"¹⁷. While the Hindus emphasise the need for a son, the Moslems want to see that their women are *richly fruitful*. Perhaps this difference in outlook explains partly the higher fertility noticed among the Moslems of India. The child woman ratio of all women between 15 and 39 years of age was 770 per 1000 for Moslem women, whereas it was only 678 for the Hindus¹⁸. Partly this higher fertility of Moslems is due to their lower economic status; but to a greater extent, the cultural factor is found to be responsible. The use of contraceptives was found to be less prevalent among the Moslems than among the Hindus.

15. Kingsly Davis, *Loco Cit.*

16. C. P. Blacker, *The Rhythm Method, Two Indian Experiments*, *Eugenics Review*, London, Vol. XLVII, p. 96.

17. The Population Council, *Population: An International Dilemma*, 230 Park Ave., New York 17, p. 33.

18. Kingsly Davis, *Loco Cit.*, p. 188.

In the urban areas of U.P. 40% of the wives among the Hindus with a monthly income of Rs. 500 per month used contraceptives. Among the Moslems in the same income group, it was only 14.9%. In the income group of Rs. 100-300 per month, no Moslem woman used contraceptives, but 12.4% of the Hindus used it¹⁹.

Though paradoxical it may seem, when one has in mind the fertility of Christians in the West, the Indian Christians are found to be much more fertile than the non-Christians. The Christians in India have inherited from the Hindus some of their cultural characteristics. The Hindu preference for a male child is one of them. The ancient Christian community of Kerala in South India, used to welcome the news of the birth of a male child with great joy. "Women would slam the wooden bolts of the doors backwards and forwards and grind coconut shells in a mortar to make noise, as well as made the *kurava sound* (a shrill sound made with fingers moved up and down in the mouth)"²⁰. But if a female child is born, the family will look like a bereaved family.

Practices like early marriage and universal marriage and extended families are also retained by the Christians. However, they do not ban widow remarriage, and practice abstinence on religious grounds. "The Indian Christians, therefore, stand in the vanguard of a trend that is seemingly coming to characterise the population of the entire peninsula"²¹.

The Parsis of India have showed a reproductive behaviour which is conspicuous by its resemblance to the reproductive behaviour of the people in the West. "The balance between births and deaths in the whole community has been small and fluctuating above and below the zero point during the last half century"²². While 85% of the Hindu men and women between 15 and 19 years of age were married in 1931, among the Parsis only 18% were married. More than 89% live in towns and they are seen in the forefront of most industrial ventures in India. Ethnocentric values have not influenced them to become more prolific in reproductive behaviour.

The motivations for bearing children seem to be quite different in India as compared to the West. According to a survey conducted in Mysore, the motivation for getting children in the case of 22.3% of the

19 J. N. Sinha, *Differential Fertility and Family Limitation in an Urban Community of U.P.*, *Population Studies*, Vol XI 1957-58, London, 1958

20 L. W. Brown, *Indian Christians of St Thomas*, p. 185.

21. Kingsly Davis, *Loco. Cit.*, p. 188.

22. C. Chandrasekharan, as quoted by Frank Lorimer & Others, *Loco. Cit.*, p. 186.

women was "to be taken care of in old age". 14.1% wanted children "to ensure family survival", 15.5% wanted "a son", and among the rest some wanted children to "avoid community criticism", some for "household help" and some to "follow the community pattern"²³.

These motivations are, in most cases, completely at variance with the system of motivations prevalent in the Western society where children are wanted just for their own sake because care in old age is provided by old age pensions, "ensuring family survival" does not cause too much worry, the "community" is too busy to criticise the childless couple and "household help" is ensured by machines.

The net effect of the impact of Western culture on India's fertility level has been, by and large, neutral. On the one hand, the new culture released certain forces like the weakening of the caste system, tolerance of widow remarriage, less orthodox attitude to abstinence during religious festivals, less rigorous control on the young bride by the mother-in-law etc., which have the effect of raising the level of fertility. It also introduced some counter-vailing forces such as break up of the joint family, higher age of marriage, greater freedom for women, change in attitude toward sex and motivation for children etc. So far, these forces have been equally balanced in its effect on fertility. The birth rate (estimated) which remained at 39.9 in 1950 fell only to 39.1 in 1958²⁴.

Recent investigations conducted in various parts of India show that the Indian culture offers little resistance to family planning. Even as late as in 1945, while the Members of the Royal Commission on Population in Britain were of the view that "to attempt a house to house questioning on a national scale was to foredoom the enquiry to failure"²⁵, statistical investigations on a house to house questioning basis regarding sexual behaviour have been surprisingly successful in India.

Statistics collected from all over India shows that 55 to 80% of the population are in favour of family planning. Among the rest, some do not find it necessary to look beyond their noses and be troubled by something which is not of immediate concern to them, while the rest equate

23. C. Chandrasekharan, *Fertility Survey in Mysore State, India*, Current Research in Human Fertility, *Milbank Memorial Fund*, New York (1955), p. 18.

24. U. N. *Demographic Year Book*, 1960

25. Papers of the Royal Commission on Population Studies, Vol I, as reported in *Population Studies*, Vol. XV, No. 1.

26. N. V. Sovani and Kumudini Dandekar, *Fertility Survey of Nasik, Kolaba & Satara (North) Districts*, Publication No. 31, Gokhale Institute of Politics and Economics (1955). Ch. V.

contraception with abortion and thus do not want any knowledge of it²⁶. There are only very few who quote religious reasons.

Owing to the non-availability of contraceptives, their unsuitable nature and their high prices, the use of contraceptives is found to be very limited so far. According to a survey in Bombay, only 0.1% in the rural areas practise contraception²⁷. In some villages around Delhi, only 0.05% of married females used birth control techniques²⁸. And 0.05% of married couples were found to be practising family planning in a Kerala village²⁹.

The strong feeling against destruction of life makes abortion as a family planning technique, unacceptable in Indian culture.

However, Indian culture does not react against sterilization operations as a method of birth control. In recent years, sterilization operations have received a great boost. In the State of Madras, for which statistics are available, the number of sterilization operations conducted in the first 10 months of 1961 were much higher than the combined total of the five preceding years³⁰. Unlike in Puerto Rico and Japan, the majority undergoing sterilization operations in India are males. "The surprising phenomenon in India is the willingness of men to undergo vasectomy when they decide to limit further births"³¹.

The ancient Indian culture based on social stability is slowly but steadily giving way to a new one motivated more by "social progress" than "social stability", under the influence of the Western culture, and with the initiative provided by enlightened political leadership that stands for democratic institutions.

27. *Ibid.*, p. 108.

28. S. N. Agarwala, A Family Planning Survey in Four Delhi Villages, *Population Studies*, Vol. XV, No. 2, November 1961.

29. T. J. Samuel, *Loco. Cit.*

30. R. A. Gopalswami, Family Planning, Advantages of Sterilization, *The Hindu Weekly Review*, Dec. 25, 1961.

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A SHORT REPORT ON THE INTERNATIONAL SCIENTIFIC SEMINAR

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An International Seminar on the Physiology of Reproduction was held in Bombay on the 21st, 22nd and 23rd February 1963, under the joint auspices of the Indian Society for the Study of Reproduction, the Indian Council of Medical Research and the Family Planning Association of India. The Seminar was inaugurated by Dr. V. R. Khanolkar, President of the Indian Society for the Study of Reproduction. Smt. Avabai B. Wadia, Honorary General Secretary of the FPAI, welcomed the participants and guests, and a vote of thanks was proposed by Dr. Shanta S. Rao, Honorary Secretary of the Society. The Seminar was held under the Chairmanship of Dr. A. B. Kar, Asst. Director of the Central Drug Research Institute, Lucknow.

The first scientific session on "Neurohumoral Control" commenced with a paper by Dr. K. K. Nayar (Trivandrum) on the "Endocrine mechanisms in reproduction in Arthropods". Dr. Nayar had studied the endocrine basis of reproduction in female arthropods on the basis of the studies carried out on the plant bug *Iphita* and the cockroach *Periplaneta*. The next speaker Dr. L. S. Ramaswamy (Jodhpur) read a paper on "Some aspects of ovulation in some mammals". The effects of some mammalian hormones on ovulation possibilities in bats had been studied and it was interesting to note that during the rest period, after the breeding season, the ovary could be induced to ovulate by injecting some hormones including estrogens and some androgens.

Smt. G. K. Dhaliwal (Delhi) then read a paper on "Histochemistry of the pituitary gland of the palm squirrel *Funambulus penanti* (Wroughton)". The cytology and cytochemistry of the pituitary gland of the squirrel had been studied under different experimental conditions; two periodic acid-Schiff positive basophil cell types could be identified by such staining.

Dr. M. T. Clegg (University of California) showed that electrical lesions in different regions of the hypothalamus, pituitary transplantation to extrahypothalamic sites, cannulation of the cavernous sinus and assay of the blood free gonadotrophins are the different experimental

approaches for the elucidation of hypothalamo-hypophyseal inter-relationships. Recent evidence points to the existence of different trophic hormone-releasing factors in the hypothalamus.

The second scientific session was confined to the Biological Control of Reproduction. The first paper of the session was presented by Dr. J. P. Thapliyal (Banaras) on "The absence of refractory period in the gonadal cycles of the common weaver bird, *Ploceus phillippinus*". The common weaver bird responded to continuous 15 hour long photoperiods during all the phases of the reproductive cycle, the gonads become active, reach the breeding condition and maintain it, suggesting that in this species of Indian finches a refractory period comparable to that in temperate species, did not exist.

Dr. A. B. Kar (Lucknow) gave an account of "Sterilization of males by scrotal inunction of cadmium chloride".

The next paper by Dr. Appaswamy Rao and H. B. D. Sarkar (Mysore) was on the "Effect of adrenal cauterization and administration of pituitary extracts or DOCA on ovulation and spawning in the skipper frog, *Rana cyanoplectis* (Schn.)". The observations indicated that for prespawning the adrenals seemed to be important; the administration of DOCA in adrenal cauterized frogs caused spawning. However, pituitary extracts were unable to induce spawning.

The session on the first day ended with the paper, "Endocrine influence on yolk deposition in insects", by Dr. Maya Menon (Trivandrum).

The session on the Biological Control of Reproduction was continued on 22nd February with the paper, "Studies on certain aspects of control of fertility in the bovine female", by Dr. S. N. Luktuke (Izatnagar). The pattern of estrus in Haryana and Murrah females of the experimental herds of the Institute were studied and it was possible to detect the occurrence of anovular heat and diagnose pregnancy as early as 3 weeks in a large number of cases by examination of these smears.

The third session was on "Immunological Control of Reproduction" and commenced with a paper by Dr. S. Katsh (Colorado) on "Immunology and reproduction" dealing with the antigenicity of human testis, sperm and seminal plasma and studies designed to detect antibodies in seminal plasma, cervical mucus and serum.

The next paper was by Dr. A. M. Phadke (Bombay) and K. Padukone on "The presence of auto antibodies against spermatozoa in the blood of patients having obstruction in the vas deferens". Phagocytic cells were observed to be present in certain cases of obstructive azoospermia.

spermia. Since Phagocytes are derived from the reticulo-endothelial system of cells, it could be expected that these cells gave auto antibodies to spermatozoa in cases of obstructive azoospermia. Dr. Phadke observed that this was not the case.

Dr. Shanta S. Rao (Bombay) then presented a paper on "Immunological studies with human and animal semen". She gave an account of the antigenic composition of human and rabbit semen. Auto and iso antibodies to spermatozoa were reported to be present in certain cases of infertility. Dr. Rao also presented the immunological work carried out with rabbit semen, where attempts were made to induce serological infertility in female rabbits.

The fourth scientific session was on "Biological studies with semen" and the first paper was presented by Dr. A. Roy (Mathura) on "Variations in semen quality in relation to season". The data presented showed that during the spring the quality of the semen was at its best.

The next paper was read by Dr. P. M. Bhargava (Hyderabad) on "Protein and nucleic acid metabolism of spermatozoa and its possible biological significance". He suggested that protein synthesis occurs in the acrosomal region of the spermatozoa.

Dr. I. G. White (Australia) then read a paper on the "Effect of steroids in the metabolism of spermatozoa in the transformation by semen".

A paper by Dr. J. C. George (Baroda) and Dr. P. M. Ambadkar on "The distribution pattern of lipids and lipase in the testis and its metabolic significance" was then presented. It was concluded from the observations that there was a non-specific esterase as well as "true" lipase activity in the interstitium and the seminiferous tubules.

Dr. S. K. Roy (Lucknow) then spoke on the "Influence of calories and tumor on pregnancy in rats". The overall effect of caloric restriction on nitrogen balance was discussed in terms of pregnancy, litter size and foetal weight.

Dr. C. R. Sane (Bombay) concluded the session with a paper on the "Study of the normal process of involution of the uterus in Murra buffalo-cows". It was observed that in buffalo-cows after complete involution, the uterus was invariably found back in its position in the intra-pelvic cavity. This is a characteristic in this species which differs from that in cows. The process of involution was found to be delayed in cases of infection to the uterus, and in most cases, the milk yield dropped to a great extent.

The fifth session on "Clinical and laboratory studies following administration of various oral progestational agents" began on 23rd February with a paper by Dr. M. N. G. Dukes (Holland) on the "Physiological and clinical aspects of cyclic administration of lynestrol and estrogen".

It was followed by a paper by Dr. Margaret Jackson (U.K.) on the "Value of vaginal smear and endometrial studies in differentiation of various progestational agents used as oral contraceptives".

Dr. Shanti Shahani (Bombay) presented a paper on the "Effect of Norethysterone acetate (Anovlar) on human vaginal epithelium and cervical mucus". The discrepancy between the response of the endometrium and cervical mucus is commented upon and is considered as a probable end organ response.

The next paper of the session was by Dr. P. N. Shah (Bombay) on "Some experience with Norethynodrel in Indian women". The most striking beneficial effect of this drug was in patients having dysfunctional uterine bleeding.

Dr. Shah's paper was followed by a paper by Dr. Eleanor Mears (U.K.) on the "Clinical trials of approved oral contraceptives". Dr. Frank Novak (Yugoslavia) then read a paper on the "Trials with oral contraceptives" mentioning the first trials and experiences with oral contraceptives in Yugoslavia.

Dr. R. A. Vaidya (Bombay) presented a paper entitled, "A preliminary report on experience with Anovlar".

Dr. E. Rice-Wray (Mexico) then spoke about "Oral contraception in Latin America". This was followed by a paper on "Current problems in oral contraception" by Dr. G. R. Venning (U.K.).

The Seminar closed with a discussion on methods other than oral contraception with reference to "Intra uterine devices".

NOTES, ABSTRACTS AND REVIEWS

NEW FPAI PRESIDENT

Smt. Avabai B. Wadia has been elected the new President of the Family Planning Association of India in succession to Smt. Dhanvanthi Rama Rau who is now the President of the International Planned Parenthood Federation.

Smt. Wadia has received many messages of congratulations including one from Mrs. Ottesen Jensen, immediate past President of the International Planned Parenthood Federation which states: "It is a great comfort to know that your strong and experienced hands will guide your Association. Good luck to you in your new task."

INDIA'S GROWTH PATTERN

India, the world's second largest nation, illustrates how an agrarian population alternated between stagnation and moderate growth and then suddenly experienced very rapid growth. During the last three decades of the 19th Century and the first two decades of the 20th, the annual growth rates were fairly low and exceedingly unstable: moderate growth in normal years and stagnation, sometimes even regression, during years of widespread crop failures and devastating epidemics.

During the 1921-31 decade, India's population grew moderately but steadily at 1.1 percent a year. The growth rate inched up to 1.3 percent a year during the next two decades, 1931-41 and 1941-51.

*Annual Rates of Population growth between censuses :
India, 1871-1961.*

Decade	Annual Rate*
1871 - 1881	0.1
1881 - 1891	0.9
1891 - 1901	0.3
1901 - 1911	0.6
1911 - 1921	0.0
1921 - 1931	1.1
1931 - 1941	1.3
1941 - 1951	1.3
1951 - 1961	2.0

* 1871-1941, figures are for pre-partition India; later figures are for Republic of India.

This latter growth rate was used by the Indian Government to establish the population estimates which were used in economic development plans. But actually the population growth rate during the 1951-61 decade had surged up to 2.0 percent per year as death rates declined while birth rates remained at traditionally high levels.

In 1958, Ansley J. Coale, Director of the Office of Population Research, Princeton University, and Edgar M. Hoover, Professor of Economics, University of Pittsburgh, published a monumental study on India which was the major source for the December 1958 issue of the *Population Bulletin*. They estimated that India's population in 1961 would be 424 million. This estimate assumed no change in the birth rate between 1951 and 1961 and an increase in life expectancy of 11 years for males and slightly more for females. While their estimate was 18 million higher than that of the Indian Government, it fell 11 million short of the actual census count. (*Population Bulletin*, February 1963)

MEDICAL COUNCIL OF INDIA'S SILVER JUBILEE RESEARCH AWARD—1964

To commemorate its Silver Jubilee, the Medical Council of India has created a Silver Jubilee Research Award Fund. The first award will be made in November/December 1964. This award is open to all citizens of India and foreign Nationals who have spent considerable time for research in India, male or female, and who have distinguished themselves by outstanding original research in the field of medical and allied sciences. The value of the award will be Rs. 15,000/- and a Gold Medal which may be of the value of upto Rs. 1,000/-. These awards for the present will be presented once in two years at a ceremonial function at which the successful candidates will be required to make an oration.

The award will be made on the basis of nominations of candidates to be submitted along with copies of monographs or reprints of nominees' special study and research. These will be scrutinized by an Expert Committee which will be constituted by the Committee of Management as and when necessary, and then it will make recommendations in due course. The decision of the Committee of Management of the Silver Jubilee Research Award Fund of the Council shall be final.

In the case of a joint research work, the award shall be divided between the workers in such proportion as may be decided. The role of the person nominated for the award should be clearly indicated so as to make it easy to determine whether the major part of the work has been done by that person.

Nominators are requested to forward nomination forms complete in all respects as indicated in the instructions.

Blank nomination forms can be had from the Secretary, Medical Council of India, Kotla Road, New Delhi and completed nomination forms should reach him not later than 1st May 1964 through Registered Post A.D.

V. V. Puri

Secretary

Medical Council of India

BOOK REVIEWS

The Banned Books Of England And Other Countries ; A Study Of The Conception of Literary Obscenity, by Alec Craig-London, George Allen and Unwin Ltd., 1962.

This book traces the history and development of the conception of literary obscenity as found in law and practice in England, the United States and a number of other countries which have been "conspicuous for the tradition of freedom of thought and liberty of literary expression". The author also focusses attention on the social and cultural effects on intellectual freedom of thought and expression and artistic creation.

Chapters 1 to 12 of the book discuss the history and development of the conception of literary obscenity in England, viz., the primitive stage ; the pre-publication control stage, initially by ecclesiastical sources and, later by royal authority ; common laws stage (as is clearly brought out in the case of Edmund Curll) ; and the legislative stage covering the Obscene Publications Act, 1857, and the Cockburn definition of obscenity, which "if consistently applied, would have reduced literature to the level of the nursery. Arbitrarily applied, it proved a fruitful source of injustice to individuals and of damage to science, literature and society". The author follows this up with a detailed case study of Havelock Ellis to show that 'the Victorian anti-sex obsession of which the persecution of this great man was the supreme manifestation, resulted in a lopsided and frustrating pattern of social progress'.

The more recent period, starting with 1954, is landmarked by the Obscene Publications Act, 1959, a detailed examination of which "will reveal that it does not go much further than to give statutory authority to what was already held to be the law by enlightened judges and to what had already been practiced by the better courts".

The highlight of these 12 Chapters is the introduction, at most appropriate places, of a large number of cases and examples, to build up the concept. However, interesting as some of the anecdotes and incidents are (regarding Katherine-p. 24 ; the Pillory-p. 31), they have no direct bearing on the subject under study, and may, therefore, be deleted. Thus the chapters on Edmund Curll and Havelock Ellis may also be revised to eliminate irrelevant information. Incidentally, it

is Vatsyayana and not Yatsyayana whose name is associated with the *Kama Sutra*. It is further suggested that the three paragraphs which constitute Chapter 6 on British Customs may be appropriately distributed to the earlier chapters.

Chapter 13 briefly deals with the trends in Scotland, Ireland and selected Commonwealth countries, unfortunately excluding India. Similarly, Chapter 17, briefly deals with the subject in France and other European countries.

Chapters 14 and 15 trace, comprehensively, the history of literary obscenity in the United States in terms of three stages, viz. the early British pattern, Comstockry and finally the enlightened period of court decisions. Comparing the trends in England and the United States, the author rightly observes that "the realities and importance of this subject seems to be better understood in the States than in England and the opposition to censorship is more organised and cohesive". Similarly, on discussing in detail in Chapter 16 the trial of the famous case against 'Lady Chatterly's Lover' both in England and the United States, he concludes that in the United States "the law is much more objective and certain and the higher courts have a very tender regard for freedom of thought and expression and are prepared to set very narrow limits to what can be suppressed on the ground of obscenity".

After reading this lucid, instructive and impartial analysis, one cannot but conclude that the book has fulfilled a very important function. The author has brought together widely scattered information on this subject, as is evident from the excellent bibliography and notes at the end of the book, and has made an intelligent analysis and interpretation of his findings. One may not agree with all his conclusions but the book certainly is thought provoking, and one cannot but agree that there is ample scope for improving the existing legislation on the subject in most countries. The author's sincere and candid suggestions (Chapter 19), based on his vast experience and knowledge on the subject, merit serious consideration.

No bookshelf of serious students of Law, Literature, Social Work, Education and Research would be complete without a copy of this book.

P. R.

The Sociological Review Monograph No. 6. The Canford Families: A Study of Social Casework and Group Work. Ed. by P. Haimos, January 1963. University of Keele. 25/- (postage 9d).

The aims of this pioneering experimental action-research project in social work, were 'to consider how to identify a threatening need ahead of the crisis that normally brings it to light, to seek an acceptable way of providing help which may be badly wanted as well as needed, but is never easy to admit; to work out the ways in which appropriate help can be given through case work, group work and through more effective use of other community resources; to study the families in their total situation, looking for guide lines for further study, identifying the difficult areas, recording the significant questions, and showing where further experiments could hopefully be attempted'.

The project, in principle, consisted in the setting up of a social service unit in the locality, contacting families composed of both parents and at least one school going child living together and known to have problems (but not 'problem families' as generally understood). Hence the family was the central concern of the project even though only one member may initially have been referred to the unit. In all, 16 such families were contacted and studied over a period of one to two years.

Chapter 1 and 4 of the monograph deal with the aims and development of the project, and the organisation and methods of social work adopted. The two chapters give an adequate picture of the design of the project.

Chapters 2 and 3 describe the background of families and the problems for which they were referred to the unit. In addition, case histories of four families are given in great detail.

Chapter 5 briefly discusses the importance and role of psychiatric consultants and consultations in this project. Since it discusses more the methods and organisation rather than the findings, this chapter could be introduced after the first and fourth chapters but before the second and the third.

Chapters 6 and 7 analyse the theory and organisational aspects of group work and the functions of therapeutic groups, and their practical applications. Illustrative materials elaborately trace the progress of three girls and four boys, each from a different group, in terms of their backgrounds and problems, their groups and behaviour therein, relation-

ship with other children and the group worker, group activity, etc. The outcome of the therapy is also evaluated. The analysis is more detailed in the case of girls than the boys.

Chapter 8 presents further case material on three children of one family to indicate the effects of concurrent therapy administered to a number of family members, on the family as a whole, Chapters 9, 10, and 11 examine, threadbare, the theory, techniques and adaptability of case work to specific settings, criteria for evaluation of the efficacy and effectiveness of case work, and the preconditions for case work. The role of economic conditions of a family as the only or major cause of problems is also discussed.

Chapter 12 brings together the findings on the various aspects of the study. The author has most diligently refrained from making sweeping generalisations, but has rather, as should be in studies of this nature, raised a number of pertinent questions for further study and research, and formulated quite a few hypotheses. On the whole, this study has made a basic contribution towards social work knowledge. It modestly asserts that the best means of social work for families is the comprehensive unit which, efficiently conducted, should help social workers in establishing excellent rapport with communities and families, identifying problems and offer help (preventive aid) even before the crisis sets in. 'Family focussed social work' of this nature calls for workers who are 'generic trained' and at home both with case work and group work, and familiar with therapeutic groups and psychiatric consultative services. If this is accepted, schools of social work must consider modifying their programmes. The specialised agencies like child guidance clinics, group work centres, family welfare agencies, should consider coordinating their services, further.

Though there is scope for improvement in the report, e.g. different chapters giving the impression that they are independent contributions, thus accounting for quite a few repetitions, different levels of discussion etc., these slight shortcomings do not cloud the basic fact that this is a valuable report on a very good project. The team has not fought shy of 'evaluative' and "predictive" social work research. This is a book which must be studied by every social worker, prescribed as a text book for students of social work, and should find a prominent place in libraries of schools of social work.

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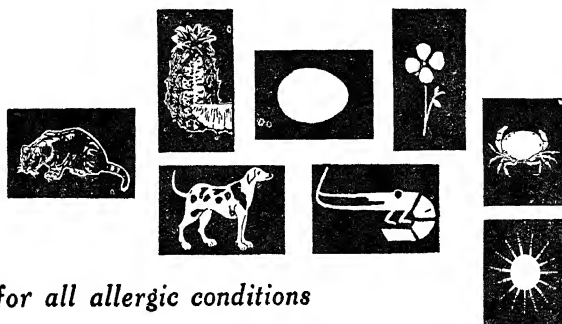
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 - (b) the use of scientific contraceptive methods,
 - (c) treatment of childless couples desiring to establish a family,
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REGULARITY IN CONTRACEPTION

DR. (Mrs.) AMRIT WARDEV SINGH, M.B.B.S.

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&

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It has been seen that reduction in the birth rate has been brought about by widespread contraceptive methods in Western countries, whereas in Japan this was done by the widespread practice of abortion. The State of Maharashtra is now laying positive stress on sterilization as the community demands such services. In this State, the average age of the husband and wife at the time of sterilisation works out to be 37 and 32 years respectively. The average number of children at the time of sterilisation has been worked out to be 5 in 1962. The Registrar General of India in his introductory note to the Vital Statistics of India for 1960 has computed that 20 per cent of total births in this State are above 5th parity and another 24 per cent above 3rd parity. It is, therefore, no doubt possible to reduce present fertility by 44% through sterilisation on a mass scale. However, this can also be done by regular contraception. One can hardly expect to sterilise all eligible couples having more than three children. Moreover the role of contraception as far as spacing is concerned is not disputed.

The potentiality of regular and hence effective contraception in reducing fertility is definitely much more than sterilisation. Contraception involves all married women between 15 to 45 years of age, whereas sterilisation is restricted to married women above 30 years. The State of Maharashtra has so far registered 1,60,000 couples for contraception. Had these couples been practising contraception regularly, the birth rate could have been reduced by 5 per cent. One lakh sterilisations performed in the State might not have affected the birth rate to the same extent. However, in practice, contraception has never been regular and hence is ineffective to a certain extent.

Hence it was considered necessary to analyse our record to find out what factors determine regularity in contraception.

The period of this study ranged from 1st October 1959 to 31st December 1962, i.e. a period of 39 months. During this period 1,224

couples who accepted the different contraceptive methods were followed up. Out of the 1,224 case cards, 1,121 case cards (i.e. couples who registered upto 30th September 1962) are included in the present study. The last 103 case cards are not included as these were of less than three months of duration and hence could not be included in this study to evaluate the regular or irregular use of contraceptives.

The sample mainly belongs to the low-income group and in 80.02% of the sample, the income is Rs. 100/- or less per month. The mean income of the group is Rs. 81.20 per month.

The literacy rate among the women is 47.38% and among the men 67.89%. Literacy however, is confined mostly upto Primary School level in the case of women and Secondary School level among the men. The mean age at which the mother sought family planning advice is 24.3 years. About 80% of the women enrolled by 30 years of age. The average duration of marriage at the time of enrolment was 11.5 years. The average number of living children at the time of enrolment was 3.50 (in the previous study of 800 cases it was 3.55) though the average number of children born alive was 4.11 (compared to 4.17 in the previous study).

Before we proceed further we would like to define the terms "regular," "irregular" and "never" for the purpose of this study.

Regular :—the persons coming to the clinic regularly and using the method regularly as revealed by their clinic visits, home follow-up and regularity in taking supplies of contraceptives. The follow-up reveals that they have not taken any risk.

Irregular :—the persons who use the method off and on and take risks as revealed by their infrequent clinic visits, home follow-up remarks and irregularity in taking supplies of contraceptives.

Never :—these couples came to the clinic and were duly advised a method. They were supplied with the contraceptives. But after this first visit they never paid a second visit to the clinic, they never asked for a second supply of contraceptives. Home follow-up revealed that they might have used contraceptives off and on, taking risks for a month or two. In practice they can hardly be considered to be either regular or irregular in the use of contraceptives.

Regularity According to the Agency

The Regional Centre is mainly a training centre and two months inservice training is given to the social workers and field workers. It operates as a service centre as well.

Home visits are mainly done by the trainees. Each trainee is asked to survey at least 50 houses in a given area and then carry on the family planning education among those who need family planning and motivate at least 10 couples for acceptance of family planning methods. The result is that couples coming to the clinic are mainly referred by the trainees. Out of 1,121 couples, 775 i.e. 69.13% of the total were referred by the trainees. 161 couples (14.36%) were referred by their friends or by persons already using contraceptive methods. 112 (10.00%) couples came of their own accord and 57 (5.08%) couples were referred by doctors or nurses.

TABLE I

Regularity according to the agency

Agency	Regular	Irregular	Never	Total	Percentage
Trainees.	304	55	416	775	69.13%
	39.22%	7.10%	53.68%	100.00%	
Friends.	83	9	69	161	14.36%
	51.55%	5.59%	42.86%	100.00%	
Self	66	3	43	112	10.00%
	58.93%	2.68%	38.39%	100.00%	
Doctor & Nurse.	33	0	24	57	5.08%
	57.89%	00.00%	42.11%	100.00%	
Information not avail- able	4	1	11	16	1.43%
	25.00%	6.25%	68.75%	100.00%	
	490	68	563	1121	100.00%
Total	43.71%	6.07%	50.22%	100.00%	

The majority of the couples were referred by our trainees and this is as per expectation. However, the regularity in these couples is the least. The regularity is best seen in the case of couples who were referred by doctors and nurses (57.89%) and who were self-motivated (58.93%).

The reason may be that the couples who came to the clinic of their own accord had strong motivation; they had thought over the problem and decided to adopt the method. But in the case of couples referred by the trainees the motivation was not so strong. The couples were ready to accept some method of controlling further conception but the urge was never very strong or they never gave serious thought to the problem, but went to the clinic because they were asked to do so by the social worker.

The cases referred by the doctors and nurses also show better regularity. This also shows that these people were convinced by the doctors to some extent that further conception would be harmful to the health of the mother or the child.

The table indicates that regularity is much greater when they were self-motivated or referred by friends and medical personnel. It therefore follows, that intra-community agencies should be brought more and more into the family planning programme, so that they will be the major motivation forces, with the social worker acting as a catalyst.

The importance of extensive community education, so as to promote self-motivation and the utilisation of private practitioners either as a referral agency or a service agency, will not only increase the number of contraceptors, but will also increase regularity in contraception.

This also shows that 50 per cent of our registered cases can be termed as a clinical waste and out of 1,60,000 couples only 80,000 couples could be regular followers of contraception.

In considering these percentages it must be borne in mind that they refer to the low-income group and not the middle or the upper classes.

It may be estimated that in order to reduce the birth rate by 50% in the State we should have 1,600,000 regular contraceptors or 32,00,000 registered cases under contraception.

Regularity According to the Method Accepted

The acceptability of the condom is maximum (38.71%), then comes diaphragm and jelly (25.07%), foam tablets (18.56%), and jelly alone (17.66%).

TABLE 2

Regularity according to the method accepted

Method	Regular	Irregular	Never	Total	Percentage
Foam Tablets.	53	16	139	208	18.56%
	25.48%	7.69%	66.83%	100.00%	
Jelly Alone	69	15	114	198	17.66%
	34.85%	7.58%	57.57%	100.00%	
Diaphragm & Jelly.	147	16	118	281	25.07%
	52.31%	5.69%	42.00%	100.00%	
Condom	221	21	192	434	38.71%
	50.92%	4.84%	44.24%	100.00%	
Total	490	68	563	1121	100.00%
	43.71%	6.07%	50.22%	100.00%	

Table No. 2 shows that regularity in using the contraceptives is maximum in the case of couples using diaphragm and jelly (52.31%), condom comes second (50.92%), then comes jelly (34.85%), and lastly foam tablets (25.48%).

The effectiveness of diaphragm and jelly, and condom, is more as compared with jelly alone and foam tablets. It seems, therefore, that the more effective a method is, the more regular is its use.

It also follows that in order to increase the regularity of contraception, only effective methods should be stressed while leaving the choice of the method to the couple. Since diaphragm has not been favourably accepted by the majority of the population, it is imperative that we should start stressing the method of condom.

Regularity According to the Income Group

We can see from the table below that as the income increases, the regularity in the use of contraceptives also increases.

TABLE 3

Regularity according to the income group

Income per month	Regular	Irregular	Never	Total	Percentage
Rs. 100 and below	378 42.14%	53 5.91%	466 51.95%	897 100.00%	80.02%
Rs. 101-200	87 48.88%	12 6.74%	79 44.38%	178 100.00%	15.88%
Rs. 201-300	18 50.00%	2 5.56%	16 44.44%	36 100.00%	3.21%
Rs. 301 and above	7 70.00%	1 10.00%	2 20.00%	10 100.00%	0.89%
Total	490 43.71%	68 6.07%	563 50.22%	1121 100.00%	100.00%

The regularity is marked in couples having a monthly income of Rs. 300 and more. More educative and field work needs to be done in the lowest economic group.

The table reveals that the higher the income, the greater the regularity in the use of contraceptives. The reason may be that the higher-income groups do not wish to lower their standard of living, i.e. the fewer the children, the higher the standard of living.

However, the economic factor has a lot to do with the regular use of contraceptives. The economic upliftment of the masses is a long term objective of our Five Year Plans; if family planning is to achieve its target one can hardly wait for such a long period. Hence there is a great necessity for carrying out extensive social education among the masses so as to increase the regularity of contraception in the low-income group.

Regularity According to Literacy and Education of the Husbands

Out of this sample of 1,121, 13.29% of the husbands are illiterate, 18.82% can just read and write. 27.21% have had education upto primary school and 10.88% upto middle school, 21.59% have passed

secondary school and only 8.21% have either graduated or been to college.

TABLE 4

Regularity according to literacy and education of husbands.

Literacy and Education	Regular	Irregular	Never	Total	Percentage
Illiterate	59	6	84	149	13.29%
	39.59%	4.03%	56.38%	100.00%	
Can read and write.	99	12	100	211	18.82%
	46.92%	5.69%	47.39%	100.00%	
Upto Primary School.	127	16	162	305	27.21%
	41.64%	5.25%	53.11%	100.00%	
Middle School	51	12	59	122	10.88%
	41.80%	9.84%	48.36%	100.00%	
Secondary School.	111	16	115	242	21.59%
	45.87%	6.61%	47.52%	100.00%	
University.	43	6	43	92	8.21%
	46.74%	6.52%	46.74%	100.00%	
Total	490	68	563	1121	100.00%
	43.71%	6.07%	50.22%	100.00%	

TABLE 5

Regularity according to literacy of husbands.

Illiterate	59	6	84	149	13.39%
	39.59%	4.03%	56.38%	100.00%	
Can read and write.	99	12	100	211	18.82%
	46.92%	5.69%	47.39%	100.00%	
Literate group	332	50	379	761	67.89%
	43.69%	6.50%	49.81%	100.00%	
Total	490	68	563	1121	100.00%
	43.71%	6.07%	50.22%	100.00%	

Table No. 4 and 5 show that there is not much difference in the regular use of contraceptives between the different education groups.

It is usually assumed that better educated people use contraceptives with more regularity. However, this is not the case as seen from table 4 and 5. One should not feel, therefore, that our illiterate masses will never be able to take to contraception.

Regularity According to the No. of Living Children

Out of the total of 1,121 couples 11 couples had no living child at the time of enrolment.

TABLE 6

Regularity according to the no. of living children

No. of living children	Regular	Irregular	Never	Total	Percentage
No Child.	4 36.36%	1 9.10%	6 54.54%	11 100.00%	0.98%
1-3 children	280 46.90%	33 5.53%	284 47.57%	597 100.00%	53.25%
4-5 children	149 40.27%	26 7.03%	195 52.70%	370 100.00%	33.01%
6 and above	57 39.86%	8 5.59%	78 54.55%	143 100.00%	12.76%
Total	490 43.71%	68 6.07%	563 50.22%	1121 100.00%	100.00%

About 53.25% came when there were 1 to 3 living children, 33.01% when there were 4 to 5 living children, and only 12.76% when the living children were 6 or more.

If we see Table No. 7 we find that the majority of the couples came with 2 to 4 living children i.e. 63.06% and these couples were more regular in the use of contraceptives than the other groups and out of these also the couples with 2 living children were more regular than couples with 3 or 4 children.

TABLE 7

Regularity according to the no. of living children

No. of living children	Regular	Irregular	Never	Total	Percentage
Nil	4	1	6	11	0.98%
	36.36%	9.10%	54.54%	100.00%	
1	47	5	60	112	10.00%
	41.96%	4.47%	53.57%	100.00%	
2	117	17	104	238	21.32%
	49.16%	7.14%	43.70%	100.00%	
3	116	11	120	247	22.03%
	46.96%	4.46%	48.58%	100.00%	
4	96	18	108	222	19.71%
	43.24%	8.11%	48.65%	100.00%	
5	53	8	87	148	13.20%
	35.80%	5.41%	58.79%	100.00%	
6	33	6	39	78	6.96%
	42.30%	7.70%	50.00%	100.00%	
7	17	1	22	40	3.57%
	42.50%	2.50%	55.00%	100.00%	
8	4	1	10	15	1.34%
	26.67%	6.66%	66.67%	100.00%	
9	1	0	5	6	0.53%
	16.67%	00.00%	83.33%	100.00%	
10	2	0	2	4	0.36%
	50.00%	00.00%	50.00%	100.00%	
11	490	68	563	1121	100.00%
	43.71%	6.07%	50.22%	100.00%	

These tables are interesting. It is presumed that the higher the number of children, the better is the motivation and hence the regularity. However, this is not true as borne out by facts. The most regular group is with 2 or 3 children. This is encouraging as it shows that spacing is getting a foothold among our young mothers. It is quite likely that mothers with a greater number of children belong to the "old type" and hence are not likely to accept regularity of contraception. Such cases need sterilisation. Perhaps the higher acceptability of sterilisation seen to-day, is a reflection of the attitude of these "old type" cohorts, but once the young mothers of to-day reach the age of 30 and above they may probably stick to contraception even in the latter part of their life. Acceptability of sterilisation will then decline.

TABLE 8

Regularity according to the age of women at the time of enrolment

Age of Women	Regular	Irregular	Never	Total	Percentage
20 years and below	56	12	69	137	12.22%
	40.88%	8.76%	50.36%	100.00%	
21-30 years	351	43	364	758	67.62%
	46.31%	5.67%	48.02%	100.00%	
31-40 years	81	13	128	222	19.80%
	36.49%	5.86%	57.65%	100.00%	
41 and above	2	0	2	4	0.36%
	50.00%	0	50.00%	100.00%	
Total	490	68	563	1121	100.00%
	43.71%	6.07%	50.22%	100.00%	

It is interesting to note that the younger age group was more regular in the use of contraceptives compared to the older group, and the maximum regularity is in the age group of 21 to 30 years. Out of this group also the women in the age group of 26 to 30 years were most regular (54.35%).

It is a known fact that 21 to 30 years of age is the most fertile period of a woman's life, and if during this period of life conception is controlled or the family is planned by spacing children with the help of contraceptives, the families can be limited to some extent.

Conclusions

1. Self-motivation and intra-community motivation increases the regularity.
2. The more effective a method is, the greater the regularity.
3. The higher the income, the greater is the regularity.
4. Regularity is independent of the literacy status.
5. Regularity is found more among young mothers than older mothers.

Acknowledgment

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PREPARATION FOR MARRIAGE*

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Entering into matrimony, a uniting of "human elements" of different sexes in a manner accepted by the prevalent milieu and morals and as prescribed by them, is one of the basic happenings of our whole modern society. It is an almost equally regular occurrence as the birth and death of a human being.

Still, although it is so "regular", it is rich in nuances in every direction. Who indeed would be able to enumerate even all those ways in which people meet each other, begin to keep company and go and get married, to say nothing of the sequel?

But even if it is difficult to systematise marriage happenings and to force them into definite patterns, there are none the less certain facts which everyone who is preparing to marry should know and which, in the majority of cases, if correctly applied, frequently exercise a decisive influence on the formation of a happy marriage.

In the Congress programme, "preparation for marriage" is put under a larger heading, i.e. "Sex Education". However, preparation for marriage is not only sex education in its exact meaning. Since I am a gynaecologist and am working at the Central Marriage Guidance Clinic of Väestöliitto in Helsinki, I often have, in the process of my work, to handle problems associated with sexual life in the guidance of both those who mean to marry and those who are already married.

Since last Autumn, Väestöliitto has been arranging courses for social workers in different communes. The aim of the courses is to make these social workers convoke in their turn in their own communes, the young who are about to marry or who have just married, and instruct them.

In the following I am dealing with those particular matters which I have treated during the aforementioned courses, that is, what I consider should be taught these young about sexuality and reproduction.

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Thereafter I shall take up some other subjects which young people preparing for marriage should be taught during these courses. Finally I shall present some points of view on the possibilities which society has for preparing young people for marriage.

Attitude towards Sex and towards Stability of Marriage

A factor of a basic nature for the success of marriage is the correct attitude of husband and wife towards sex. Satisfaction of the sexual instinct belongs to normal life. The teaching process begins in early childhood. It goes on, one may say, for as long as a human being, applying its rational and irrational sides, experiments in his or her own marriage and tries to find an answer to the riddle. On the other hand, a person who for one reason or another has begun to consider sexual matters as an, in some way, abnormal phenomenon of life, will not go along the "road of instruction" even at a later stage, in order to seek relief in his difficulties. I am thinking particularly of those frequent cases which come up for consultation because of childlessness or some other reason, and I have been able to note that sexual intercourse has not yet succeeded in taking place even after a marriage of, for instance, ten years.

The idea may perhaps seem strange that the sensible attitude of two people towards sexual matters, their correct interpretation of marriage and what they are expecting from sexual relations, is of decisive importance for the success of their marriage—almost more important than the fiery intensity of the love they feel when entering into marriage—but that is a fact.

The success of a marriage also greatly depends on the attitude of the couple towards the stability of marriage. If one marries with certain reservations, for instance thinking that if it is not a success one may separate, the relations are frequently less successful than if one adopts the attitude at the very beginning that one should endeavour to surmount the difficulties, whether in adverse or happy circumstances.

Love and Sexual Life

Young people of today have very great possibilities of learning in what way one can gain money and even save, so that the economic foundation of marriage should be guaranteed. Each one takes with him as his heritage into his own family, customs learned usually from one's own parents, but in the majority of cases all knowledge of sexual life is entirely accidental and may be collected from very

heterogeneous sources. The instruction which is obtained from the best source is as a rule of a negative character, in the best of cases young people are warned against sexual relations. If they occur in spite of the prohibition and pregnancy possibly follows, the admonisher complacently says: "I told you so." It is seldom that a young person is able to rely on the parents in order to obtain help in sexual problems. The most usual thing is for young people to regard their parents as silly and devoid of understanding in these matters. More often than not, a young girl whom the examination has revealed to be expecting a child, says that she dare not tell her parents about it. It is a frequent occurrence that the father, himself by no means an irreproachable head of the family, ejects his child from the home without mercy under these circumstances.

When fear becomes a factor in sexual life, it usually destroys the sexual experience which gives full satisfaction. The causes of this fear may be fear of pain, fear of love or fear of the shame produced by copulation. All these must be discarded before sexual life can become successful.

The person guiding people who prepare themselves for marriage sees a faulty attitude towards sexual life of two kinds. Women for instance can be of the opinion that the sexual act is something inferior, something to which one has to submit only in order to satisfy man's sexual instinct, or that it should be entered into at a height to bring children into the world. Others again are of the opinion that a successful sex life is a matter of course, which under all circumstances offers a human being perfect happiness. However, great happiness is achieved only after mutual understanding and often as the result of protracted experience which demands selflessness. Many a young woman just married comes to complain of sexual frigidity. After the lapse of some time, however, she makes the positive observation that she herself is pleased if she can give pleasure to her husband and when she experiences that, she also achieves orgasm.

Differences between the Sexes

In the man, orgasm is produced by those rhythmical contractions which result in automatic ejaculation of the semen. In many persons who have just embarked on their sexual life, this ejaculation occurs prematurely. Prolongation of the time comes only with habit. Orgasm of the woman is produced by spasms in the glitoreal and vaginal tissues. If the woman does not achieve orgasm, she will

remain in a state of tension. If this continues, it will be followed by headache and nervousness. Under a continuation of this condition the woman may begin to adopt a fully negative attitude to sexual life. The most common reason for intelligent young people to turn to a doctor is in fact the man's premature ejaculation and the inability of the woman to experience orgasm. It is most important in such a situation to consult a specialist if this state of things threatens to become permanent.

If the man's premature ejaculation or the woman's frigidity is involved, improvement of the situation demands a lot of patience from the other person. The treatment in these cases is chiefly psychological. It is only in exceptional cases that young people can be subjected to hormonal or other medicinal treatment. It is also natural that a state of physical fatigue adversely affects successful intercourse.

One reason why young people come to the Marriage Guidance Clinic is the unperforated hymen as a result of unsuccessful coitus. In these cases the woman is usually in a state of tension during the gynaecological examination and she resists it with great strength, so that the doctor who performs the examination is by no means left in doubt that coitus has miscarried. These hymen intacta cases are not at all rare, not even after several years of marriage. This state of things can be easily corrected if it is a question of a mechanical obstacle. The only requirement then is that the person comes for treatment. During it the hymen orifice is dilated under anaesthesia, either gradually or at once. Cases in which the woman opposes herself with all the strength of her will to coitus, demand prolonged and frequently psycho-therapeutical treatment.

The Need in Sexual Intercourse

The need in sexual intercourse greatly varies in human beings. It depends on age, the condition of health, the quantity and quality of work and on other factors. No rigid rules can be put down in this respect. According to investigations, men attain their sexual peak when young, already under twenty, women only approximately towards the thirtieth year. The sexual instinct continues long after child-bearing has become impossible. In many women the desire even grows after the climacterium, when there is no need to be afraid of possible pregnancy.

Female Genitals

The outer orifice of the *vagina* in young girls is usually occluded by the hymen. The belief that the first sexual intercourse always results in haemorrhage and acute pain is erroneous. Many a hymen is so thin that the opening in it is dilated even without coitus. Through the vagina the sperm cells penetrate into the uterus during coitus.

The *uterus* is a muscular organ in which the foetus develops. It is pear-shaped and the orifices leading to the ovarian tubes lie in its upper part.

The ovarian tubes open into the abdomen with a ciliated end, lying in the immediate vicinity of the ovary.

The *ovaries* have an oval form and are situated one on each side of the uterus. Once a month the ovum bursts, reaches the Fallopian tube and begins its descent towards the uterus. The possible fertilisation of the ovum occurs in the ovarian tube. If fertilisation has taken place, the fertilised ovum adheres to the wall of the uterus and begins its growth and development of 9 months' duration. If the ovum has not been fertilised, it leaves the uterus by the natural way in connection with the subsequent menstrual discharge, usually 2 weeks after the bursting. The lifetime of an ovum is not long, at a maximum, a couple of days after its breaking out. One means of birth control is based for example on this circumstance.

It is obvious that the ovarian tubes must be open if fertilisation is to occur. Frequently the only cause of childlessness is occlusion of the woman's ovarian tubes as a result of some inflammation.

The stage of development and bursting of each ovum is mirrored in the functions of the woman, because the hormones secreted at different stages affect not only the genitals but the whole organism. If the menstrual cycle ceases on account of illness, phobia or poor nourishment, this also manifests itself in the general condition. This reaction can be clearly observed in numerous women during climacteric changes.

Male Genitals

The male sperm cells develop in the testis. Their main tissue consists of a network of tubes in which the spermatozoa develop. From the testicles they pass into another network of tubes, the epididymis, in which they receive their final development. From

these latter the sperm cells pass into a long seminal duct, the vas deferens. Before joining the urethra it dilates into the vesicula seminalis. The purpose of the vesicular container is to act as a storage room of the spermatozoa. All the organs enumerated here are in pairs, one on each side of the body. In addition to sperm cells, the glands secrete into the seminal fluid other substances as well. In one ejaculation there are several tens of millions of sperm cells. It might be mentioned as an example that 20 million spermatozoa per 1 cm is regarded as the lower threshold of the fertilising ability of the seminal fluid.

The sexual glands have significance even before a human being achieves sexual maturity and therefore becomes able to procreate. They secrete then some of those hormones which control our physical development and mental growth. The manifestation of outer sexual properties makes the young behave even socially as woman and man.

Sexual Glands

The sexual glands secrete hormones. Both female and male hormones are found in the tissues of the opposite sex in small amounts, as some kind of a balancing factor. The chief male hormone is testosterone which brings about the growth of male genital organs and such masculine properties as the growth of a beard and a deep voice. It also affects the psyche. It must be considered that this hormone also produces the predominating and initiative-taking behaviour of man in sexual life.

Various female hormones are secreted into the organism in the different stages of the menstrual cycle. The vesicle surrounding the ovum contains estrogens and after the bursting of the ovum, secretion of progesterone from the corpus luteum follows in the same place. Under the effect of these consecutive hormones the mucous membrane of the uterus assumes such a property that the ovum is able to adhere to it. Progesterone also prevents the bursting of the next ovum and menstruation.

Each of these hormonal secretions in its different stages affects the temperament and personality of the woman. The fluctuation of female behaviour from the optimistic to the depressive and vice versa can be explained by these hormonal variations. It has been presumed that the tense condition of the woman prior to menstruation is a consequence of accumulation of water in the tissues which occurs at that time.

Nowadays, when it has become possible to manufacture commercially almost all sex hormones, their administration may help a human being in his or her difficulties.

Fertilisation and its Prevention

In old times childlessness was considered a curse of the gods. The husband could for instance return his wife to her parents if she was unable to bear a child. It was the general opinion that the cause always lay with the woman. In recent times investigations have established that a large number of cases of childlessness are due to the fact that the seminal fluid of the man is unable to fertilise. Since fertilisation can only occur during a short period each month, in other words during the time when it is possible for the living sperm cell to meet the living ovum, it is calculated among gynaecologists that 2 years is the normal period of married life during which fertilisation should take place in healthy human beings. If it does not happen, there is reason to consult the doctor. Modern medicine can frequently find out the cause of childlessness and also eliminate it.

Pregnancy is a natural condition and to many women the happiest time of their life. The modern treatment during pregnancy and labour is so well-developed that the mother need not fear child-bearing. The more she knows about her pregnancy and delivery, the greater is her confidence in her condition.

Having healthy children and caring for them is a source of great pleasure and satisfaction to a married couple. But it should also be borne in mind that those parents who wish to do their best for the child should also consider the relation between the number of children and the mother's mental and physical toleration, as well as the economic position in the home. Therefore a planned family and birth control are needed.

The majority of people use some method to limit the number of their children. There are no statistics in Finland illustrating this situation—in America about 90 per cent use some kind of a preventive method. A good method should be perfectly free of danger and reliable, nor should its application make it impossible to have children, if so desired. The method should cause as little difficulty in application as possible.

The child and even the youth in the puberty period experience love life as two separate phenomena.

1. On the one hand they observe its external manifestation in the human body and its immediate reactions.
2. On the other hand they picture love as an unattainable, misty dream.

The first, real deep falling in love is experienced by them only if both these fields, sexuality and spiritual devotion, eros and agapee, are united. Then some kind of an explosion is born, which seems to remove all obstacles from the path.

But life is many-faceted. In every approach to another human being there is, or at least there should be, the presence of these two elements—the bodily and the psychical. Sometimes perhaps eros alone predominates, sometimes again agapee. After the intercourse one can experience great mental peace and exaltation, but the reverse as well—a feeling of shame and depression. In the relations between two people one should endeavour to fight victoriously for a balanced life.

Sexual need is associated with marriage as its essential and natural part, which is channelled in it into ruts approved of by society and environment, and in which the power current leads to the building up of marriage and the family and to the personal happiness of both marital partners. The psychical element takes care that this channelling does not become monotonous. The psyche colours one's own spouse as the most beautiful, capable and brilliant, but the next moment it may perhaps become just the opposite. The spirit colours life. The spirit must be cultivated in married life as well. The means are manifold. Sometimes they are very superficial, e.g. one pursues a banal social life, goes to the cinema, etc.; but the spirit of the marriage often grows most powerfully where the landscape shrinks and ordeals are lived through. It grows at the bedside of a sick child during sleepless nights, or while the other suffers from his last illness or serves to the last vestige of his strength, perhaps in exile, or while the other may be a political prisoner in another country.

Courses to Prepare for Marriage

In addition to matters of sexuality and propagation discussed in the foregoing, Väestöliitto's training course for those preparing for marriage also selected lectures on human relationship within the home, marriage laws and the support offered by society to young people. Moreover, housewifery and other matters associated with housework were taught at these courses.

Society is by no means indifferent towards a phenomenon such as marriage. It cannot stipulate each turn and occurrence in it, but it draws certain lines and draws them very firmly. Legislation concerning engagement and marriage differs in various countries. But not even after these occurrences does society withdraw from the vicinity of the home and allow each one to do as he pleases. For the whole duration of marriage the law regulates the rights and obligations of the married parties, both economic and even spiritual. The law is also prepared to act when the marriage terminates, even with regard to the issue, for any length of time. It would be well to have knowledge about all this when the marriage is planned and entered into

In many countries, social legislation is interested in giving support to young couples. It is possible to give loans based on the law to help young couples get started in life, also contributions for children. This latter very often forms, in outlying districts of the country, the only monetary income of the family, and under these circumstances, it is by no means the most fertile soil for exercising birth control. The conclusion of a marriage changes in many countries the principles of taxation, and so does the birth of a child in the family.

The organisation of a home's economy and the distribution of work in a home have greatly changed in modern society. In most countries, it is very common for the woman to be gainfully employed. At the same time the possibilities of obtaining paid domestic help have diminished. The married couple ought to have knowledge of all such matters at the time of marriage. The happiness of a home depends to a much greater extent than can be believed on the successful solution of practical matters belonging to this sphere and seemingly of a trivial nature.

Homes Prepare the Young for Marriage

The home and the environment in which the young people live, exercise in general a decisive influence on their conception of marriage. The parents' example or their idea of a suitable marital partner is an influential background factor. In normal cases the parents naturally conceal and hide from their children all the concrete manifestations of their own sexual life, and few educators are able to ration out even the best informative material from their own experience for the benefit of those they educate. In the majority of cases the young have to acquire the desired knowledge from other

sources, and possibly even to fight free of the concepts supplied by the home, appropriating for their own use out of sexuality what seems most suitable for themselves.

Society Prepares for Marriage

When the girl has found her boy friend or vice versa, they themselves believe that they have decided their own business quite by themselves, without the help and advice of others. But as a matter of fact this choice is based on environmental factors of a different nature.

In village homes finding a husband or wife was formerly a simple matter. At least on the other side of the river there was also a house and in it a young person waiting for his or her life mate. A modern city with a million or more population, with its lights, noise, working and dancing facilities, does no longer give direct orientation to the young. Examples given by the cinema are followed, song hits are listened to. But they rather complicate than clear up the problem of sexuality.

Therefore society has a direct obligation, under these circumstances, to come to the aid of the young and their parents. In my own country Finland, society provides help in many respects.

1. It is true that in our schools there is no direct sex instruction, as in our neighbouring country Sweden. Instead, it is associated with many different subjects. Instruction about one's native locality and environment teaches the importance of building up a home and establishing a family. Hygiene, biology and psychology instruction is regularly associated with their application to marriage and family life. In addition, the Central Board of Schools has published a book of lectures in the field of family education, for different classes of the elementary and secondary schools.

2. There is unfortunately no instruction for those about to marry in vocational schools.

3. In universities, preparation for marriage takes place mainly in connection with voluntarily organised lectures by student bodies.

4. Several organisations have included the guidance of those preparing for marriage into their programme. The Finnish Evangelical-Lutheran church carries out valuable work in this respect. Väestöliitto—The Finnish Family Welfare League—maintains in the country five marriage guidance clinics, in all of which guidance is

provided also for people preparing for marriage. This body has in addition published booklets destined for different circles of young people to prepare them for marriage. These booklets are distributed to such groups of young people as pupils of the upper forms of secondary schools, agricultural institutes, young people in factories and to the Finnish army. Kotikasvatusliitto (League of Home Education), Valkonauha (The White Band), Marttaliitto (The Martha League), Mannerheimin Lastensuojelusliitto (Mannerheim League for Protection of Children), the movement towards developing young people's societies, etc., annually arrange lectures for preparation for marriage.

5. The communal youth guidance gives help in its own way in the preparation for marriage.

6. A great number of books and booklets—some of which are worth recommendation—have been published on the subject of preparation for marriage. Moreover, one should not forget the positive and negative significance of the press, the cinema, the radio, and television, in this matter.

7. In the Finnish army, lectures are delivered by military ministers and by representatives of Sotilaskotiliitto (Military Home League) bearing on the ideals of home and marriage and on their application.

Human sexuality, if unconnected in modern society with bigger issues, is a very unstable force.

As late as the beginning of the present century, "patria potestas"—the authority of the head of the household—was a factor which was able to bind the family into a unit and to keep it together as a solid cell of society. Within its circle, sexuality was also fettered.

Nowadays the giant productive communities do not build their success on the concepts of home, marriage and family, unless at a height in the marketing sense. Technique and production are more interested in the individual. Seldom is the family given employment as a family.

Sexuality is guiding its steps into an entirely new field. It is sold as a product of great industry, as films, crossword puzzles, magnificent periodicals. And sexuality sells. What would publicity pictures be worth without "pin-ups"? Representative organisations and firms know the importance of selecting women and men who, in addition to other good properties, have a certain amount of "sex appeal". It is valued even in political life.

How then can one teach the young nowadays to join eros and sexus in unselfish love for the other party? It is important to guide people towards a healthy sexual life, but at the same time one should bear in mind that sexual instruction is weak if it does not simultaneously acknowledge the constructive forces of our time. Individuals are fairly powerless to protect modern marriages and families from breaking up. Only society as a whole and the families of the couples concerned are able to do so. This is the safeguard to be built upon. It is also natural that the time has come to initiate international co-operation in this field. This is what our being together within the limits of this congress probably means.

THE SIZE AND COMPOSITION OF HOUSEHOLDS IN DISPERSED DWELLINGS

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A peculiar feature of the settlement pattern in Western Rajasthan is the large number of dispersed dwellings locally called *dhanis*. On account of their poor accessibility they have been subjected to few sociological investigations. The studies reported in different parts of the country on rural households, whether on their changing pattern or their composition, have related to compact village settlements. (Morrison, 1959 ; Lewis, 1958 ; Mayer, 1960 ; Dube, 1955). The need for studying the nature and composition of households in scattered dwellings, therefore, assumes significance both for purposes of comparison with households in other regions as well as for understanding the social organisation in dispersed dwellings.

This paper is based on a village study in the arid zone of Rajasthan. The village, which lies at a distance of about 36 miles from Jodhpur, has a normal annual rainfall of about 8 inches. Cultivation is the main occupation of the earners. Next in importance is animal husbandry. All the cultivated land is non-irrigated. There are 207 households living in compact settlements and 198 households living in dispersed dwellings. The caste composition in dispersed dwellings shows that Jats number 125 households, Raikas 29, Bhils 21, Rajputs 10, Suthars 3, Purohits 3, Bhambis 2, Nais 2, and other castes 3.

Households living in dispersed dwellings were enumerated and a sample of 100 households was drawn by simple random sampling. From the heads of sample households schedules were filled. A household has been defined as a group of persons living together and sharing the same kitchen. The head of the household has been taken to be the person who is considered as such by the members. In all cases this turned out to be the eldest living male member. In 98 per cent of the cases the household was identical with the family since all the members living together were related by blood, marriage or adoption. Only 2 sample households had non-relatives.

Size of Household

One of the important factors determining the size of the household is its type. Nuclear households, i.e., households comprising of husband, wife and their children have only 5.43 members as compared to 7.48 members per joint household. The difference between the percentage of nuclear and joint households is not significant. There is, however, a significant association between the type of household and the size of household.

TABLE 1
Size of nuclear and joint households

Size	Nuclear %	Joint %	Total %
1-2	2	—	2
3-4	9	12	21
5-6	22	11	33
7-8	9	17	26
9 and above	—	18	18
Total	42	58	100

Glick (1957) studied changes in characteristics during the life cycle of American families by classifying data with reference to the age of the family head. In this paper, also, data about the age of the head has been compiled and the assumption has been made that different age-groups of household heads represent different stages in the life cycle. The data in this study shows that the size of the household changes during different stages of the life cycle. The coefficient of correlation between the age of the head of household and the size of the household is + 0.321 which is significant. Average sizes of households when heads are at different stages of the life cycle are 4.10, 6.14, 6.69, 8.43 and 6.82 respectively. Thus the size of the household which is expansive in the earlier stages of the life of the head as children are being added, reaches the peak when the head of the household is in the age group 45-54 years and declines thereafter as there are no further additions in the family. Daughters on getting married leave the household, and in some cases married sons separate to form another household. Independent households are not set up immediately after marriage, but after a few years, in case members find it difficult to continue on account of maladjustment among them.

TABLE 2

Age of head and size of household

Age of head (yrs.)	1-2	3-4	5-6	7-8	9 & above	Total
<25	1	6	3	—	—	10
25-34	—	9	13	7	6	35
35-44	—	2	11	7	3	23
45-54	—	2	4	8	7	21
55 and above	1	2	2	4	2	11
Total	2	21	33	26	18	100

Earners and Dependents

Since agriculture and animal husbandry, which are the chief sources of livelihood of households living in dispersed dwellings, are practised as family enterprises and women of all castes work (except Rajput women who observe *purdah* and so do not work in the fields), the extent of dependency is 2.93 per household or 44.2 per cent of the population. Table 3, which gives the age and sex composition of earners and dependents, shows that nine-tenths of the dependency is in the age group 0-14 years. In the age group 55 years and above, the dependency is much greater among females than among males. In an average household comprising of 6.62 persons, there are 2.04 male earners, 1.65 female earners, 2.61 dependents in the age group 0-14 years, 0.16 dependents in the age group 15-54 years and 0.16 dependents in the older age groups.

TABLE 3

Age and sex composition of earners and dependents

Age (yrs.)	MALES			FEMALES		
	Earners %	Dependents %	Total %	Earners %	Dependents %	Total %
0-14	19.6 (14.2)	80.4 (93.0)	100.0 (44.6)	15.5 (15.7)	84.5 (86.1)	100.0 (50.9)
15-34	95.9 (57.4)	4.1 (3.9)	100.0 (36.7)	94.0 (57.0)	6.0 (3.6)	100.0 (30.3)
35-54	100.0 (24.0)	— (—)	100.0 (14.8)	89.6 (26.1)	10.4 (3.0)	100.0 (14.6)
55 and above	69.2 (4.4)	30.8 (3.1)	100.0 (3.9)	14.3 (1.2)	85.7 (7.3)	100.0 (4.2)
Total	61.4 (100.0)	38.6 (100.0)	100.0 (100.0)	50.0 (100.0)	50.0 (100.0)	100.0 (100.0)

To investigate the extent of dependent children at different stages in the life cycle of the household head, all persons below 15 years were considered because they represent the potential dependent group even though at present some of them share the family burden of earning a livelihood. The coefficient of correlation between the age of the household head and the number of children under 15 years per household is $+0.124$ which is not significant. The average numbers of members per household under 15 years with heads at different stages of the life cycles are 1.30, 2.91, 3.78, 3.90, and 2.91 respectively. Thus the increase is steeper in the earlier stages of the life cycle as children are added. The peak is reached in the age group 45-54. This is the age group when the size of the household also reaches the maximum as the data in Table 2 have shown. Subsequently, there is a fall since by then the older children will have crossed 15 years, there are no new additions to the family, and one or more of the married sons might have separated to set up an independent household.

TABLE 4

Age of head and number of members per household under 15 yrs.

Age of head (yrs.)	Number per household							Total
	None	1	2	3	4	5	6 and above	
<25	2	5	2	—	1	—	—	10
25-34	1	4	8	12	6	2	2	35
35-44	—	1	2	5	9	5	1	23
45-54	1	2	3	3	4	4	4	21
55-64	2	2	1	3	—	1	2	11
Total	6	14	16	23	20	12	9	100

The extent to which the number of earners per household varies with the stage in the life cycle of the household head was investigated. The coefficient of correlation between the age of the household head and the number of earners per household is 0.347 which is significant. Average numbers of earners per household when heads are at different stages of the life cycle are 2.90 (15-24 yrs.), 3.00 (25-34 yrs.), 3.61 (35-44 yrs.), 5.09 (45-54 yrs.) and 4.09 (55 yrs. and above) respectively, while the average numbers of dependents in the different age groups of the household heads are 1.20, 3.14, 3.08, 3.34 and 2.73 respectively. Thus both the averages of earners and

TABLE 5

Age of head of household and number of earners per household

Age of head (yrs.)	Earners per household						Total
	1	2	3	4	5	6 and above	
<25	—	3	5	2	—	—	10
25-34	3	16	5	3	7	1	35
35-44	—	8	4	5	3	3	23
45-54	—	—	5	3	4	9	21
55-64	1	2	2	1	3	2	11
Total	4	29	21	14	17	15	100

dependents reach the peak at the age group 45-54 years, but the rise in the number of dependents is steeper in the initial stages and becomes gradual later, while the rise in the average number of earners is gradual in the initial stages and steeper in the middle stages.

TABLE 6

Number of earners per household and size of household

Earners	Size						13 and above	Total
	1-2	3-4	5-6	7-8	9-10	11-12		
1	1	2	1	—	—	—	—	4
2	1	10	13	5	—	—	—	29
3	—	7	7	7	—	—	—	21
4	—	2	7	4	1	—	—	14
5	—	—	5	6	4	1	1	17
6 and above	—	—	—	4	3	3	5	15
Total	2	21	33	26	8	4	6	100

The number of earners per household also varies with the size of the household as the data in Table 6 shows. The coefficient of correlation between them is +0.814 which is highly significant. Since both husband and wife earn, there are very few households with only one earner. Fifty per cent of the households have 2-3 earners.

Composition

The components of a household are usually the head, wife, children, other relatives and non-relatives. Every household has a head, and most households have also the wife of the head. These

components (head and his wife) remain fairly stable over any period of time. Any changes that may occur in the size of the household would depend, therefore, upon the other components. Table 7 which gives the composition of households and the marital status

TABLE 7

Relationship of members to the head of household

Relationship	Unmarried	Married	Widowed	Total	Av. per household
Head	2	85	13	100	1.00
Wife of head	—	82	—	82	0.82
Son	121	50	2	173	1.73
Daughter	121	26	1	148	1.48
Other male relatives :					
Father	—	—	—	—	—
Brother	8	21	4	33	0.33
Grandson	11	1	—	12	0.12
Others	7	5	—	12	0.12
Other female relatives :					
Mother	—	—	22	22	0.22
Sister	1	1	—	2	0.02
Daughter-in-law	—	22	1	23	0.23
Sister-in-law	—	18	4	22	0.22
Grand-daughter	13	2	—	15	0.15
Others	10	3	3	16	0.16
Non-relatives					
(Male)	2	—	—	2	0.02

of members shows that the head, wife, son and daughter constitute 5.03 out of an average size of 6.62 members per household. The other components are thus only 1.59 members. The married daughters found living with the father have not yet left for their husbands' homes because the *muklawā** ceremony has not yet been performed. It is interesting to note that most of the sons (69.9 per cent) living with the head of the household were unmarried. Also, out of 52 married sons in a hundred households, there were only 22 daughters-in-law, indicating that although these sons had been married, the wives had not yet come from the parental home to live with their husbands. Most of the brothers living with the head are married or widowed (75.8 per cent). Other male and female relatives constitute

* In case the girl is married in childhood, she continues to live with her parents ; after puberty the *muklawā* (or *gauna*) ceremony is performed when she leaves for her husband's home.

only 0.28 members (or 4.2 per cent of all members) in the household. Even joint households comprise of more immediate kin and are rarely multi-generational. Thus 46.6 per cent of the joint households had members of two generations, 50.0 per cent had members of three generations, and only 3.4 per cent had members of four generations.

A frequent reason given for the disintegration of joint households was what the male folk attributed as the inability of married women to get along together. There were several cases of brothers, or father and son, forming separate households but cultivating the land jointly. The frequency of occurrence of couples in a household has therefore some bearing on its type. The presence of widowed women does not materially alter the situation because the death of the husband deprives her of the source of strength to assert herself despite her role and status as determined by her age and position in the kinship group. The percentage distribution of married couples among joint households shows that 10.3 per cent had no married couples, 43.1 per cent had one married couple, 36.2 per cent had two married couples and 10.3 per cent had 3 married couples. Thus, even in joint households only 46.5 per cent had two or more married couples.

The relationship between the number of married couples per household and the age of the head of the household was investigated. The coefficient of correlation between the two is + 0.202 which is significant. Average numbers of married couples with households the heads of which are at different stages of the life cycle are 0.70, 1.17, 1.09, 1.71 and 1.27 respectively. This shows a fluctuating trend, but the maximum is reached in the 45-54 years age group of the head of household when the average size of the household and the average number of members per household below 15 years are also the maximum.

TABLE 8

Number of married couples per household and age of household head

Age (years)	married couples per household				Total
	None	1	2	3	
<25	3	7	—	—	10
25-34	3	23	9	—	35
35-44	—	21	2	—	23
45-54	1	8	8	4	21
55-64	3	4	2	2	11

Summary

The size and composition of households in dispersed dwellings were studied. The findings are stated below :

(i) There is significant association between the size and type of household. The average size of a nuclear household is 5.43 while the average size of a joint household is 7.48 members.

(ii) The size of the household changes during the different stages of the life cycle reaching the peak in the age group 45-54 years. The coefficient of correlation between the age of the head of household and the size of the household is $+0.321$ which is significant.

(iii) In an average household comprising of 6.62 persons, there are 2.04 male earners, 1.65 female earners, 2.61 dependents in the age group 0-14 years, 0.16 dependents in the age group 15-54 years, and 0.16 dependents in the older age groups.

(iv) Both the averages of earners and dependents per household reach the peak at the age group 45-54 years of the household head.

(v) The coefficient of correlation between the size of the household and the number of earners per household is $+0.814$ which is highly significant.

(vi) The head, wife, son and daughter constitute 5.03 out of an average size of 6.62 members. Even joint households comprise of immediate kin and are rarely multi-generational.

(vii) The average number of married couples per household is 1.23. Even in joint households only 46.5 per cent had two or more married couples.

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OPINION AND ATTITUDE TOWARDS FAMILY PLANNING IN RURAL MADRAS

SMT. S. P. RUKMINI MANDAGERE, M.A.

One of the most urgent problems of today is the control of population growth. About this problem Julian Huxley says: "Mankind is in danger of destroying itself by population explosion which is taking place now. Control of population is a pre-requisite for anything called progress. Man is becoming the cancer of the whole planet." Again, Gunnar Myrdal says, "no other factor—not even war—is so fatal to democracy as over-population. It must solve this problem or perish".

Thus our whole society must now tackle this problem in all seriousness and in a systematic way.

Interest in human fertility is very old. From ancient times many forms of family limitation were practised, like infanticide and abortion, late marriage and celibacy. Methods of birth control have varied with types of culture and traditional values.

In our society, infanticide and abortion are not ethically acceptable to the people; so also, late marriage and celibacy as a means of fertility control are not practical for our masses. Luckily, due to the development of science, methods of birth control are now available which can solve both the above problems.

Modern methods are easy of adoption to all people. Yet there are many barriers to the successful adoption of family planning.

The problem of family planning in the West has been somewhat different from that of the East, even after the development of modern methods of birth control. In Europe, religion was considered to be the main obstacle to the spread of family planning. Despite that barrier, success has been achieved there. In India, luckily, there is no such religious objection. But we have big differences in urban and rural problems. Very little is known about the problems of family planning in rural areas.

In a rapidly growing programme like the family planning programme, where lakhs of rupees are being spent every year all over India, it is very necessary to assess in each area at each important stage, the following points:—

- 1 How many people are aware of family planning ?
2. How much do they know about family planning ?
3. What methods do they welcome at a given time ?
- 4 To what extent are they willing to limit the size of their family ?
5. What specific problems have come up ?

It is believed that family planning has not had any appreciable impact on Indian women, and very little, if any on our rural women. So, a survey was undertaken in the village of Chinnalapatti situated in Madurai district, Madras State, to ascertain how effective has been the spread of family planning ideas among our rural women.

The main objective of the survey was to study the attitude and opinion of rural women who had practised for some time family planning on scientific lines including the use of modern contraceptive methods.

Chinnalapatti village has 3825 households. By a systematic sampling procedure, 100 married women were selected and interviewed using a questionnaire.

The characteristics of the sample of these 100 women were as follows :—

(1) *By religion*

Hindus	..	..	..	98.4%
Christians	..	..	..	1.2%
Muslims	..	..	..	0.4%
				100.00%

(2) *By caste*

Upper caste Hindus	82%
Lower caste Hindus	17%
Upper class Muslims		1%
				<hr/> 100%

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(3) <i>By age group</i>	
18 - 25	17%
26 - 33	43%
34 - 41	30%
42 - 65	10%
	<hr/>
	100%
(4) <i>By education</i>	
Literates	28%
Illiterates	72%
	<hr/>
	100%
(5) <i>By profession</i>	
Services	3%
Manual labour	51%
Cultivation	17%
Business	29%
	<hr/>
	100%
(6) <i>By income</i>	
Rs. 200 - 500 per month	15%
Rs. 100 - 200 „ „	21%
Rs. 50 - 100 „ „	38%
Below Rs. 50 „ „	26%
	<hr/>
	100%

The following are the main findings based on the statistical analysis of the data collected :

1. *Attitude towards the practice of family planning.*

Out of 100 respondents, as many as 90 have a favourable attitude towards birth control. Only 9 out of 32 in the upper Hindu caste were not in favour of the idea.

Age, income, literacy, profession and religion do not appear to have any bearing on this attitude.

2. *Preference towards specific family planning methods.*

Oral contraceptives are more favoured than any other method. Fifty-six per cent of the respondents prefer this. Only eight per cent prefer permanent methods of birth control. This small percentage is perhaps indicative of the imaginary fear of impotency after surgical operation. A majority of women in the business group have shown a preference for the mechanical means, probably because they have adequate privacy at home to use them.

The lower income groups do not have much knowledge about family planning methods nor do they have the convenience to practise them.

Only five per cent of the women believe in celibacy and the safe period method as a means to family planning

3. *Actual practice of family planning.*

Only about half the number of women are practising any birth control. Out of these ninety per cent are using mechanical contraceptives.

The fertility rate is usually high in the age group of 26-33. In this age group, only forty-eight per cent are adopting family planning methods, whereas sixty-six per cent of the women in the age group 34-41 are adopting family planning.

4. *Opinion regarding undesirable consequences of family planning.*

Only four per cent of the women are of the opinion that family planning will lead to sexual promiscuity.

Eighty-five per cent do not think that family planning will lead to breaking up of families. Two-thirds of the respondents had no fear that family planning would lead to the depopulation of the country. Amongst those who entertain such a fear, women of the older age group are in a majority.

5. *Opinion regarding the rapid increase of population.*

Ninety-eight per cent of the women know that the rapid increase of population in our country is one of the causes of the poverty of the masses. Thus a very high proportion of even those who are against family planning, do recognise the relation between a rapid population growth and the poverty of the masses.

6. *Attitude towards sterilization of criminals and defectives.*

Seventy-eight per cent of the respondents did not favour sterilization of criminals and defectives. This shows that a large majority are against sterilization of even undesirable persons.

7. *Willingness to propagate family planning ideas.*

Although ninety per cent of women favour family planning yet only eight per cent have no hesitation in propagating the message of family planning to the masses. Eight per cent did not express any opinion. A further analysis of the data revealed that no women in the age group 18-25 expressed readiness and about fifteen per cent of the women in the age group 32-41 showed willingness to spread family planning ideas.

8. *Opinion regarding factors impeding spread of family planning.*

The answers to the above questions show that (1) the conservative nature of the people is believed to be the main cause by forty per cent of the respondents; (2) fear of clandestine affairs was mentioned by twenty per cent of the women to be the cause; (3) thirteen per cent have expressed lack of scientific information on family planning to be the cause; (4) the rest of the respondents attribute various other causes like a natural yearning for children, childless persons being looked down upon by society, birth control as irreligious etc.

9. *Opinion regarding late marriages as a solution to population growth.*

Ninety per cent of the informants expressed the opinion in the negative. Those who gave the positive opinion belong to the upper class of Hindus and higher income groups.

10. *Opinion about the ideal family size.*

It is now generally accepted that three children should be the maximum size of the family. On this basis, fifty-three per cent of the women desired to have three or fewer children; of these, a third desire only two children. Eight per cent want more than 4 children. Single factors like income or education appear to be inadequate to explain these differences. Perhaps people have yet to develop a suitable way of thinking to arrive at the number of children they desire. A preference for a son rather than a daughter is universal.

The bulk of the respondents do not believe that God will necessarily provide for their children. The business group was the most sceptical.

Ninety per cent of the women believe that they must have children to have spiritual salvation. This notion appears to be deep-rooted in the minds of the people. Sixty-one per cent of the women believe that children will add to their financial burden. Only four per cent believe that the children will add wealth to the family when they grow up. This shows that the belief in the joint family is undergoing a rapid change. Parents are mentally preparing themselves to get adjusted to the shape of things to come in their old age and are not expecting much help from their children.

Ninety-five per cent of the people believe that large families are undesirable. Thus people have begun to appreciate the social and economic value of small families.

Conclusion

Though ninety per cent of the women are favourably disposed towards family planning, yet a majority of them have not been sufficiently motivated to adopt family planning successfully. The lower income groups have yet to be tackled more thoroughly ; their need is great and the obstacles they have to overcome are many.

There must be a closer approach to the women in the age groups 18-25 and 26-33 whose fertility is very high. The imaginary fears attached to the permanent method of family planning have not been overcome to any extent and so sterilization is the least attractive programme in the area.

The study has indicated that many of the initial barriers have been overcome. But the lack of a social outlook to help others who need advice, and also natural shyness still act as barriers to the spread of family planning. My experience in other villages indicates that Chinnalapatti can very well show the way to other villages.

DAILY ACTIVITIES OF SOME MIDDLE CLASS INDIAN FAMILIES - A BIRD'S EYE VIEW

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Introduction

A child is born in a family. He is helpless but born with different potentialities. The family, the main environment, unfolds these potentialities and makes him a person and develops him as a human being. When the child is born he is not born human. Environment makes him human—of course, heredity sets up the boundary within which he can grow. So the family into which the child is born, is very important. Each family bears its own culture and "the concept of culture focusses attention not only on the overt behaviour of parents in training their children but on the cognitive map that influences the content of what is transmitted, the techniques the parents employ, and their behaviour as role models." (4, p. 923).

The child rearing practices, the cultural and traditional customs and mores of the family affect the personality of the child. Thus the personality of the child bears the stamp of a particular family's habits, attitudes, customs, values, etc. As one grows up, these factors are ingrained in the personality and thus the members of one family become different from the members of another family. The habits, attitudes, etc. are not acquired in one day: "From the moment of birth the infant is in emotional interaction, first with its mother and then with other members of the family. These emotional experiences, psychological rather than cultural in their nature, give definitive shape to the initial structure of personality." (2, p. 209). Thus right from the moment of birth the ways of taking care, degrees of parental love, attitudes of other family members, ordinal position etc. affect the social and emotional life of the child. Day by day, as he grows in this atmosphere, in the routine of family life, his social and emotional life gets moulded and he becomes a personality, a human being. Thus it is said that if one has to study an individual, the whole pattern of his family living should be studied. Then and then alone can the particular personality be understood.

There are various ways of studying a family. Keeping records of one typical day is one of them. The picture of such a day does give the pattern of living, social, emotional and intellectual, of the family to some extent. A day's picture also gives the process of role identification and how each member of the family is affected by the socialization process within the family.

A project was undertaken to study the socialization process in the Indian family by recording a typical day's diary. The students of the Family Relationships class*, who were studying the socialization process of a child in the family, were asked to keep a diary of observation of a typical day in their own families. This they did when they went home during the Christmas vacation. There were twenty students in the class of whom two did not stay in their own homes. So the diary of 18 students, i.e., 18 families, were studied and analysed. The students were directed that they should record the happenings of a day in their family, right from the time they got up in the morning to the time they went to sleep. No special day was to be selected, but a typical day was to be chosen. The record was to be a current diary. Observations were to be made on the spot and the diary was not to be a record of past events.

Analysis of the Diaries.

While the daily activities of the members of the families formed the main theme of the diaries, the following background factors were also elicited: (a) income of families; (b) religion of the families; (c) education of the parents; (d) occupation of the father and (e) number of members in the families.

Income of the Families.

Out of the 18 families, 8 families had incomes above Rs. 1,000 per month; 2 families had between Rs. 600 and 700; and 4 families had between Rs. 250 and 400. The remaining 4 families did not report the income.

Religion of the Families

The families were very much heterogeneous. There were 12 Hindu families out of which 7 were Gujarati, 3 were Maharashtrian, 1 Punjabi and 1 Sindhi. Also there were 3 Parsi, 1 Muslim and 2 Christian families. Of the two Christian families, one was Gujarati and the other South Indian.

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Education of the Parents

Details of the education of the parents are given below :

TABLE I
Level of education of the parents

Level of Education	Father	Mother
No Schooling	1	5
Primary	—	3
Non-matric	4	2
Matriculation	3	3
Intermediate	—	3
B.A.	—	1
B.Sc.	1	—
B.T.	1	—
Diploma in Engineering	1	—
LL.B.	1	—
Ph D.	1	—
M.B.B.S.	2	—
A.M.I.E.	1	—
Not mentioned	2	1
Total	18	18

Occupation of Father

The following table shows the occupation of fathers in the 18 families :

TABLE II
Distribution of fathers by occupation

Occupation	Number
Businessman	5
Priest	1
Physician	2
Engineer	2
Hotel Manager	1
Advocate	1
Teacher	1
Accounts Clerk	1
Not Mentioned	4
Total	18

Number of Members in the Families

TABLE III
Composition of the families

No. of Family	Father	Mother	Brothers	Sisters	Others	Total
1	Yes	Yes	No	2	—	4
2	"	"	4	1	—	7
3	"	"	1	1	—	4
4	"	"	5	4	—	11
5	"	"	4	2	—	8
6	"	"	1	2	—	5
7	"	"	2	1	1	6
8	"	"	4	2	—	8
9	"	"	2	4	—	8
10	"	No	4	4	—	9
11	"	Yes	3	1	—	6
12	"	"	3	3	2	10
13	"	"	No	1	—	3
14	"	"	1	3	—	6
15	"	"	4	4	—	10
16	"	"	2	2	—	6
17	"	"	5	2	—	9
18	"	"	2	3	—	7

From the above table it can be seen that all the families were nuclear. In two families the sons were married, and only one family had a grandchild. The number of children in the families ranged from 1 to 9: 1 child in one, 3 children in two, 2 children in two, 4 in three, 5 in two, 6 in three, 7 in two, 8 in two and 9 in one family. In all the families both the parents were living except in one where the mother was dead.

Daily Activities

The following table gives the account of various activities performed in the families by the members :

TABLE IV
Father's Activity in the Family

Activity	No. of Families
1. Offering prayers or performing puja	6
2. Reading newspaper	8
3. Listening to radio—news	2
4. " " " —songs	3
5. " " " —instrumental	1
6. Preparing tea	2
7. Marketing	5
8. Entertaining guests	3
9. Disciplining children	2
10. Discussing about studies with children	2
11. Giving suggestions for menu	1
12. Writing accounts	2
13. Cutting vegetables	1
14. Cracking jokes at dinner table	2
15. Listening to letters being read out	1
16. Giving directions for replying to letters	1
17. Helping wife to manage the baby	2
18. Going for walks in the evening	6
19. Discussing household affairs with wife	4

Mother's Activity in the Family

Activity	No. of Families
1. Offering prayers or performing puja	7
2. Reading newspaper	6
3. Reading novels	5
4. Listening to radio—songs	4
5. Preparing tea	4
6. Preparing breakfast	7
7. " lunch	8
8. " dinner	4
9. " evening tea and snacks	3
10. Serving food	11
11. Serving food to the servants	4
12. Marketing	1
13. Cleaning kitchen	2
14. Doing housework	3
15. Checking over servants and giving instructions	7
16. Handing out provisions	4
17. Entertaining guests	2
18. Talking to neighbours	4
19. Talking to elder daughter	2
20. Collecting drinking water	1

21. Arranging cupboard	..	..	..	..	1
22. Washing utensils	..	..	..	..	1
23. Attending to small baby	..	..	..	..	4
24. Deciding on the day's menu	..	..	..	..	2
25. Writing accounts	..	..	..	..	2
26. Writing letters	..	..	..	..	2
27. Mending clothes	..	..	..	..	4
28. Stitching household linen	..	..	..	..	4
29. Going for a walk	..	..	..	..	3
30. Seeing husband to the door	..	..	..	..	1
31. Discussion and talk with husband	..	..	..	..	4
32. Attending to outside work	..	..	..	..	2

Daughter's Activity in the Family

Activity					No. of Families
1. Offering prayers or puja	..	..	..	..	8
2. Preparing tea	..	..	..	..	9
3. Laying table	..	..	..	..	4
4. Washing dishes	..	..	..	..	4
5. Sweeping rooms	..	..	..	..	5
6. Listening to radio songs	..	..	..	..	8
7. Tidying the house	..	..	..	..	4
8. Arranging flowers	..	..	..	..	1
9. Preparing meals	..	..	..	..	4
10. Helping mother to prepare meals	..	..	..	..	12
11. Entertaining guests	..	..	..	..	4
12. Going for a walk	..	..	..	..	4
13. Soaking clothes for washing	..	..	..	..	2
14. Washing clothes	..	..	..	..	4
15. Cleaning the kitchen	..	..	..	..	3
16. Serving food	..	..	..	..	5
17. Doing embroidery	..	..	..	..	2
18. Doing stitching	..	..	..	..	4
19. Studying	..	..	..	..	5
20. Reading books	..	..	..	..	8
21. Reading newspaper	..	..	..	..	5
22. Visiting friends	..	..	..	..	7
23. Shopping	..	..	..	..	2
24. Keeping father's clothes ready	..	..	..	..	1
25. Giving the day's news to father	..	..	..	..	2
26. Going to the pictures, or for walks with mother	..	..	..	..	2
27. Attending to grandmother or grandfather	..	..	..	..	2
28. Keeping tea leaves, sugar, etc., ready for the morning	..	..	..	..	1
29. Checking up doors and windows before retiring to bed	..	..	..	..	1

Son's Activity in the Family

Activity	No. of Families
1. Offering prayers	1
2. Visiting friends	3
3. Going to the pictures	1
4. Reading newspaper and magazines	5
5. Going to cricket match	2
6. Going to play	2
7. Going for N.C.C.	1
8. Talking to father	1
9. Discussing pictures	1
10. Going for walk with friends	5
11. Going to work	2
12. Studying	3
13. Going for tuition	1
14. Listening to radio	1
15. Writing application to foreign universities	1

Daughter-in-law's Activity in the Family

Activity	No. of Families
1. Helping mother-in-law in the preparation of meals	2
2. Playing cards	1
3. Going for walk with husband	2

Activities Performed by the Family as a Whole

Activity	No. of Families
1. Prayer	3
2. Breakfast	4
3. Lunch	4
4. Dinner	8
5. After tea, lunch or dinner get together	8
6. Discussions on topics of interest	6
7. Chatting	3
8. Indoor games	4

Discussion

The varied religious, educational and socio-economic status of the families have been already dealt with earlier. It is interesting to note that all the families through their common activities, indicate a definite process of role identification. There is a clear demarcation in the role of man and woman. The fathers do not do

any work pertaining to the house except perhaps marketing. The household duties are entirely shouldered by the fair sex. As long as the girls are very young (there are only 3 or 4 such girls mentioned in the reports), they also enjoy a carefree life. But once they grow up and reach the college-going age, they take up the responsibility of helping mothers in the daily cleaning of the house, cooking meals, arranging the house, etc. From the report, it is not clear whether these duties are taken up voluntarily by the daughters or whether the mothers lead them to do so. However, it gives them an opportunity to identify themselves with their mothers, which will stand them in good stead in their future life when they in turn become wives and mothers.

Two diaries refer to the daughter-in-law. They clearly state how the daughter-in-law helps the mother-in-law in her work. The reports, of course, also state that these young ladies also go out for a walk with their husbands. These two factors throw sufficient light on the learning process. These informal learning experiences equip the children better to play their role efficiently in life as wives, mothers, daughters-in-law, sisters-in-law, and mothers-in-law.

While the daughters identify themselves with the mother, the sons identify themselves with the father. The meagre items included in the activities of the sons show that they do not have any domestic duties. They seem to spend most of their free time outside the house as their fathers do. They see their fathers going out for work and they know that they too will have to start working when the time comes. Till then their day's programme consists of visiting friends, talking with them, playing and studying.

Two reports mention the quarrels among siblings. This is another socialization process by which children learn to adjust themselves to others of their age. One report which refers to small children says that the mother has to interfere when they quarrel, while another report which narrates about grown-up children quarrelling does not make mention of any such interferences. It is quite probable that the children learn to find solutions themselves as they grow up.

There is a close parallel between the daily routines of the parents and children. All reports mention the parents having baths before lunch and this is also the case with the children. Children learn it from their parents and in some cases the mothers specially insist on bathing before lunch. Thus family practices do help children in their habit formation.

The reports also furnish information regarding practices like prayer, reading, listening to radio, etc. These give some indication of habit formation on these aspects. The reports show that the religious habits of the parents or elders have a close bearing on those of the children.

In families without mothers, the entire responsibility of managing the house falls on the daughters. In houses where there are full-time servants, the mothers and daughters do not actively participate in cooking, sweeping and other domestic work. In such cases, mothers mostly supervise the work. Only one report mentions that the daughter (the only child at home) completely relieves the mother of her responsibility of managing household affairs—from the preparing of morning tea to the checking up of the latches of doors and windows before retiring to bed. This indeed gives her a very good training for her future.

Only three families mentioned grandparents. They came to the families only for short stays. In these families with aged persons like the grandmother and the grandfather, it is noticed that the girls attend to their needs. The girls also help mothers to serve food and take care of their brothers and sisters. These simple duties strengthen the ties amongst family members and help them to realize that old people are as dear as the young ones.

As regards friends, it may be noted that they are as much a part of the family as the members themselves. In addition, they serve to add to the joy and merriment and act as a kind of 'balm'. The importance of friends in the socialization process cannot be overlooked. The cultural and social pattern of having friends of the same sex is explicit in all the records.

While no report reveals a very authoritarian father or guardian, a few reports give pictures of a friendly and democratic father. The disciplinary methods used by them are of a democratic nature. This change can be attributed to the present social change and the children are bound to benefit by the same.

As regards the leisure activities, the parents and children seem to follow their own choice in most of the families. As far as the younger generation is concerned, there is segregation of the sexes. This is in conformity with the social mores.

A number of reports refer to certain activities that the families pursue as a unit. In many of the families, the members meet together at dinner time and have discussions or talk about the day's events. This is the time that the members feel their closeness to each other and the importance of being a unit of the group. It strengthens family ties and affords greater security to each member.

Conclusion

This simple study gives a glimpse of Indian family life. Some families observe puja or prayer daily. Fathers are mostly interested in outside activities and very few of them actively participate in the daily household work. Mothers are mainly responsible for running the household, and only some discuss with their husbands current news, office affairs, etc. Girls mostly take up the mothers' responsibilities and are prepared for future housewifery. Boys lead a care-free life and do not shoulder many responsibilities.

The process of role identification is very clearly noticed in this study—girls identifying with the mother, and boys with the father. In this process, the transmission of cultural beliefs on the role of the male and the female in the family is quite evident. It seems that socialization takes place in Indian families in such a way that it is a customary belief that girls should take up the mother's duties in the family and thus they identify with the mother. The techniques of bringing up the child, the cultural values and beliefs of the family bring about this type of behaviour in the child. With Bossard we can say: "The family life in which one grows up consists to a considerable extent of a series of habit patterns. . . . There are family patterns of eating, talking, greeting people, and behaving toward each other. In fact, most aspects of family living come to be routinized and this applies to social interaction as well as to other forms of behaviour." (3, p. 79)

It seems also from this study that there are definite Indian family customs, which are perhaps responsible for the typical Indian socialization process. Family customs in the form of habits, beliefs, attitudes, and child rearing practices, etc., are handed down from one generation to another. And we know that "the recognition and definition of techniques and their transmission in the next generation is, of course, one of the most important aspects of the process of socialization." (4, p. 919). Thus the transmission of values, beliefs,

habits and attitudes from one generation to the other is quite evident, in this study.

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THE ROLE OF THE SOCIAL WORKER IN FAMILY PLANNING

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(In this article an attempt is made by the author to bring out the social and psychological aspects of family planning and the role of the social worker in handling such problems. The article is addressed mainly to the lay worker and not to the experts.)

The problem of family planning is closely associated with various problems of a social and psychological nature. Therefore in order to meet with success in the implementation of this project the worker should clearly analyse, understand, and estimate the importance of these factors, before starting any work. Many of these problems arise out of traditional beliefs and attitudes towards the problem of marriage and children. Superstition, religious beliefs and even acquired habits of thought influence greatly both the individual and the group. Naturally any new idea is looked upon with suspicion, doubt and even fear. Unless a man is helped to overcome these influences he will not be prepared to receive anything new however much one might emphasise the merits of the scheme.

Man must be made to be more rational and less sentimental. He should be helped not only to understand the merits of the new idea at an intellectual level but must be helped to accept it at an emotional level. There is a vast difference between intellectual acceptance and emotional acceptance. For example a man might appreciate the point that untouchability is based on irrational thinking but when he is served food by a Harijan he may not be prepared to take it and might give many excuses for not eating.

The same is true of family planning. An individual might attend talks or seminars on family planning. He might appreciate its necessity and utility and also take contraceptives from the clinic but he may not use them at all. After several weeks when the worker makes a home visit the contraceptives might be returned to him or they may be just destroyed. This surely does not mean success to the worker.

The worker should not expect spectacular results in this field. He should be prepared to wait for a slow change. Any new idea or

reform takes time. The worker should not be disheartened about this slow progress and should not lose his vigour, enthusiasm and his conviction about changing people. Patience and perseverance are very important in a social worker; without these no worker can ever hope for success. The worker should also have skill in handling people. He should know when to talk about family planning, where to talk about it, and how to put forth his ideas without hurting the feelings, beliefs and convictions of the people. First of all he should be prepared to receive criticism, doubts and fears about the plan. Accepting the people as they are, is essential before putting any new ideas to them. Their criticism may be directed against the plan or even the worker himself. This difference should be made out and should be skilfully handled without becoming emotional.

Perhaps, the most common difficulty which the social worker will face at least among the illiterate people is with respect to their fatalistic attitude. These people believe that children are God's gift and that God is going to look after their welfare. The parents are not responsible for things that happen in this respect as everything is determined by *Karma*. In order to counteract this attitude it would be necessary to point out the role played by the couple and to show that they are responsible for the child in some measure. Such people might even show examples of couples who have lived together for years but have no children. Accepting the fact that such cases do exist, it might be pointed out by the worker that without intercourse the chances of child birth are zero and this act throws the responsibility on the couple.

Another type of argument may be advanced by some people. They might argue that birth control is a foreign concept and, as such, not suited to our social and cultural conditions. It might be pointed out to these people that something that is good should not be so easily rejected. We have to examine all aspects of the plan before passing judgment. If ideas in medicine, engineering and education, borrowed from other countries, can prove practicable here, why not this? Medicine should suit the disease and if it is good medicine, the patient should be prepared to take it whether it be manufactured in London or New York.

Some people might point out that family planning is addressed more to the poor people and therefore it is partial. They might argue that if ability to support children be taken as the criterion for adopting birth control, should the well-to-do go on adding to the

national problem while the poor are made to take up birth control with all seriousness ?

The worker will also have to solve objections arising from ethical and religious sentiments. People might argue that birth control is unethical and goes against their religion. The social worker will have to establish that this is not so. By preventing conception we do not commit the sin of taking a life. It is only a way of preventing further additions to the family. Well, then, people might argue that self-control would achieve the same purpose and it is advocated even in our scriptures. Why not follow this method ? With due respect to religious and moral teachings, the worker will have to point out that it is not possible for all people to follow this path. Even the strict practitioners of this method have often failed. To go against nature and natural impulses is not that easy. Further, this method if not followed in the real spirit might often harm healthy relations between the couple. However it might be pointed out that instead of putting so much strain on the natural course of life why not follow the easy path and still have protection against unwanted pregnancies.

After preparing the people in this way the worker might still have to face questions pertaining to several methods of family planning. It might be argued that some of the methods, particularly the rhythm method and the method of coitus interruptus, are very unreliable. It has to be pointed out here that they can be made more reliable with suitable medical guidance. There are ways and means of avoiding the risks involved in these methods as for instance by the use of foam tablets or by a combination of methods. With respect to the sheath and diaphragm methods, it might be pointed out that their adoption requires time, convenience of place and even medical guidance. It is possible to solve the problems of time and medical assistance, but the problem of privacy cannot be easily solved. Without sufficient privacy, the couple cannot be expected to practise these methods and this is a major problem as regards the poor.

People would also express doubts and fears about the methods of coitus interruptus and the surgical method. People reasonably hold that these methods are harmful to mental and physical health. Here the social worker will have to draw largely on expert opinion and also on the experience of people who have taken up these methods.

Finally we can say that propaganda is of the utmost value in implementing family planning. It is very essential that propaganda is carried out through suitable methods like posters, films, lectures and discussions. They should all be conducted under suitable social conditions so that they may have enough motivational value. It must be remembered that such methods can only prepare the people to a limited extent. Intensive family counselling and individual counselling will be the best means of achieving good results. Here both the social worker and the doctor should co-operate and work very patiently, skilfully and persistently. Wherever possible, local leaders should be consulted and their help availed of in implementing the programme.

EMOTIONAL PROBLEMS OF FAMILY PLANNING*

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At the Second Conference of the Region for Europe, Near East and Africa in The Hague in 1960, van Emde Boas gave a comprehensive survey of the emotional resistances to birth control. Considering the attitudes of doctors belonging to the Western civilisation he described how sociological and psychological factors interacted in creating individual attitudes. He stressed the retarding function of the supra-Ego, pointing by this to the conservative influence of early childhood relations on the psychological development of the individual doctor when he had grown up in a society less developed than the more advanced and progressive one in which the adult has to function as an adviser. He pointed to the conflict in the individual doctor living in a dynamic culture, between unconscious attitudes belonging to the remote type of culture in which his emotional attitudes were developed, and the conscious and rational attitudes of a more progressive and realistic nature belonging to the modern western culture. According to van Emde Boas, this modern culture could be considered more advanced because of its emancipation with regard to sexual matters. He criticised earlier investigators for having given a static and unnecessarily pessimistic impression, and this was true even if they seemingly accepted a dynamic psychology. He especially opposed Sjoval, who stuck to a biologically rooted "inacceptability" of contraception. Furthermore he opposed those idealistic theories which trust in the possibility of changing attitudes and morals through enlightenment and propaganda.

This was an important contribution to our understanding of the dynamics underlying human activity in this field and most decisive was his emphasis on the interaction between cultural and psychological factors. But van Emde Boas is a frontier-pioneer who has made up his mind and pleads for a good cause. Perhaps, however, he loses some necessary objectivity and caution if we too exclusively identify social progress with consciousness, realism and rationalism in this field. It may well be that what is considered

* Paper presented at the Seventh International Conference on Planned Parenthood, Singapore, 1963.

social progress in the western hemisphere is not in every detail consistent with healthy and rational attitudes to sex relations, procreation and contraception. Perhaps this progress will cost something—and we then have to consider if we want to pay the price. In the end perhaps we will be forced to do it as the course such so-called progress follows cannot easily be changed.

Based upon the considerations of van Emde Boas I will try if it is possible to look for a more independent, unprejudiced and, if possible, more objective theory which could serve as a better instrument in our attempts to help individuals and couples in need. I have the impression that such a theory will need to be more differentiated, allowing the vast lot of adequate factors to vary independently and thus coping better with reality in a whole and universally changing world.

Let us at first, try to have an overall look at our problem to see the emotional factors influencing family planning in their general connection with other relevant factors. After the general statements we will be better equipped to estimate the special problem of emotional factors.

Procreation presupposes sexual activity. Limitation of procreation and thus family planning can be obtained through limitation of sexual activity—through non-activity or passivity—but as you, in that case, most often have to resist an urgent human drive, it is doubtful if we can consider this a real passivity. At least all other forms of family planning depend, as does procreation, upon a human activity exercised by one or both of the partners in a sexual relationship. Contraceptive activity is dependent upon the presence of a series of external and internal factors. The external factors could be grouped this way:

1. The production of contraceptive remedies.
2. A distribution of contraceptive remedies allowing the individual or the group in question to obtain them. Weak motivation for using the remedies challenge the distribution system.
3. A balance between the price of the remedy and the income of the individual or the group in question, making it possible to secure the remedy. Again, this balance is challenged when motivations are weak. But the relation between income and price is not a simple one as in some cultures remedies will be more valued and more likely to be used if they cost something.

4. Housing and hygienic conditions in private surroundings which allow the use of contraceptives, particularly important if motivations are weak.

5. Public and private, mass and individual paganda through a number of different channels, such as papers, films, lectures and individual consultation to different age and geographic groups and others. Later we will go back to this point as our conclusions with regard to what we must do to influence emotional factors must be arrived at in the framework of this topic.

6. Attitudes of the social, political, religious or cultural group or groups influencing the development of personality of the individual in question. Do you remember that Kinsey proved that your sexual behaviour will be influenced by a group you may only join in the far future, even though at the time you seemingly have not even developed any conscious strivings for such group-membership? Kinsey showed that the one he was born into would already, as a young boy, develop the type of activity characteristic of boys belonging from the start to the higher group. The group-attitudes can be more or less realistically motivated as, for example, when farmers in non-industrialized cultures want to have many boys to help them. Or the group attitudes can stem from superstition or from the special value systems of the group, where for example, a car or a T.V. set is more highly valued than a child. External factors ought therefore to cover the whole field of cultural problems, production systems, superstitious beliefs, religious and cultural values. But as they are effective through the creation of attitudes, they are secondary factors.

With the exception of this last group of external factors influencing family planning, the importance of the external factors first mentioned is only relevant to types of family planning relying on the use of technical or chemical means. Abstinence and coitus interruptus are not dependent on such means. Today, when trying to obtain a comprehensive survey we have to remember too that family planning is no modern issue, but has been possible and known from the time the relation between sexuality and procreation was known, and perhaps even earlier, as the killing of babies and abortion belong to the realm of family planning too. Killing of babies, or such neglect of unwanted children that it comes close to killing, does exist even today and to some extent—sometimes using sophisticated methods—in all cultures. Even today abortions compete with pregnancy-prophylactic measures for the most important place among family planning measures. Sterilisation has to be mentioned too in

this connection, as thousands of women—at least in Scandinavian countries—resort to sterilisation in favour of other measures, and as you know in India vasectomy is gaining ground as a prevention measure. As shown by Professor Harmsen at the Rostock Conference, the core of the modern family planning movement represents a ramification of the movement for the emancipation of women as its main result is to proclaim to women that they now have opportunities for controlling their pregnancies themselves. As far as this is true, family planning policy has to find another scope in patriarchal cultures, where female emancipation is of no great relevance. Some groups, or perhaps only families in India, to some extent exemplify this.

But let me now proceed to the internal factors. These can be subdivided into somatic and psychological factors. Of the somatic factors, perhaps the hormonal factors are the most important but will not be dealt with in detail here. As external and internal factors are inter-related so somatic and psychological factors are interdependent to a considerable degree too. The psychological factors could be sub-divided into intellectual, cognitive and emotional factors, and we will later concentrate on the last group, the emotional factors, but for both systematic and practical reasons we ought not to overlook the intellectual and cognitive factors. Unlimited procreation among intellectually retarded families represents one of the most urgent social problems of most big towns all over the world; only to some degree limited because these groups from a statistical point of view, have only a low fertility rate.

The cognitive factors are perhaps the most important influencing our main problem—the gulf between resources and population increase. Japanese authors have told us that when starting a family planning movement in an unaffected population, the quest for abortions increased with increasing propaganda for pregnancy prevention. What happened was that a new cognitive concept was created: the concept of “unwanted pregnancy”. To get the population to understand the necessity for limiting procreation it was necessary to furnish them with this hitherto unknown concept. In the Scandinavian countries we encountered the same phenomenon when introducing the concept of “legal abortion”—this was followed by an increase in illegal abortions as well. However, it is not always possible or easy to change cognitive concepts as they are to a considerable degree a function of the social structure. When we in Denmark try to develop Greenland we sometimes meet the problem that when

Esquimaux are paid their wages for a week they don't want to continue work until several weeks later. The concept of saving money, of securing a better social standard, of individual or social progress, does not belong to their static culture. Such goals have no meaning; they are abstract and imaginary. You have to change their society before you can bring about such changes. But as you see, this represents an equation without solution. I chose this example as I think it has some bearing on parenthood-planning too.

These examples show us another important feature well-known in biology, namely, that when actively influencing a biological system you only seldom exclusively influence a single factor, but are most likely to disturb a balance. Most biological systems consist of interconnected mobile equilibriums. You know for example that when zoologists wipe out noxious animals which destroy some part of the harvest, they take the chance that another much more noxious animal hitherto suppressed by the first, will now have unlimited development.

Making a digression into the emotional factors which we in a moment will treat systematically, let me illustrate this very important rule by an experience I had some years ago. In a boarding school for severely physically handicapped young people of both sexes, some few pregnancies among the unmarried girls occurred, bringing these girls into serious trouble. I was therefore invited to talk to the group and through some evening sessions we discussed the whole field of sexual development: sex relations before and after marriage, contraception and all the moral and ethical responsibility connected with these topics. This went on in an open-minded, unprejudiced atmosphere, with all actively taking part in the discussions, and pervaded by an accepting, non-condemning attitude towards sex, but strongly emphasizing the responsibility involved in sexual relations. The year following these sessions 10 of the girls were made pregnant. What happened? I simply disturbed a balance. Their overt sexual activity had hitherto been suppressed by anxiety, feelings of guilt and disgust towards sexuality in general, as the inoculation with such feelings represents the usual way in our culture of preventing early sexual relations. The open-minded and accepting approach during the sessions dissolved the frustration and inhibition against overt sexual activity. Of course the emphasis on responsibility and contraception ought to have worked more efficiently.

I don't think that this experience should make us revert to fright and terror as a measure of sex education, but I think we have to learn more about which external and internal factors we have to influence to create more mature feelings of responsibility. However, after having terrified you with this example I can calm you by telling you that most of the ten pregnancies were the result of genuine love-relations of a quality which made marriage possible. This way of getting married represents, as I described in a paper at the fourth international conference in Stockholm, a normal function in our culture. The case perhaps has one further implication related to the abovementioned external factors influencing family planning. The practical possibilities for the girls to obtain contraceptive advice were not sufficiently well arranged. This is an important point too because sex education is in many instances futile if it is not connected with practical possibilities for realising what was taught. This situation is to some degree characteristic of some half-hearted approaches to sex-education in the Scandinavian countries. Van Emde Boas described at some length the effects of this half-heartedness and evasion of consequences in his paper too.

Proceeding then to the emotional factors influencing family planning activities in the individual, these can be subdivided into two main kinds of motivation; those acting for family planning and those working against. This is a theoretical subdivision, as family planning is not simply prevention, but means limitation of procreation to take place only in social, personal and health situations where you are able to cope with the responsibilities involved in child-rearing according to the standards of your culture. This implies also spacing of the children according to individual standards which vary rather widely. In each individual case there are several motives for and several against family planning. But the situation is further complicated when we consider the different measures to be used to obtain family planning, as each method gives rise to a special motivational situation. Furthermore the variation from positive to negative motivation does not represent an alternating but rather a continuous variation. It is therefore obviously dangerous to oversimplify our discussion of acting and counteracting motivations.

We could further subdivide the positive and the negative motivations, into motivations based upon the individual realistic evaluation of the situation and evaluations of an unrealistic kind. The last mentioned can be exemplified by countermotivations against the use of the diaphragm because of superstitious beliefs about cancer.

Realistic countermotivations would be, for example, the weakening of sexual satisfaction which unfortunately is a result of most contraceptive methods hitherto available. It is still a problem, at least according to Scandinavian attitudes, if countermotivations against the oral contraceptives could be considered unrealistic. Especially after the thalidomide cases a realistic distrust increased. Even positive motives for spacing and limiting children can be both realistic and unrealistic. That abortions can be abused is well known, but in our eagerness to spread family planning attitudes and measures we often forget that contraception, especially in its most injurious form of sterilisation, can be abused, as for example when people who in all respects are well-endowed, are anxious to avoid children altogether, or to limit them to one or two, in order to secure an extraordinarily high living standard. This attitude can influence their sexual relationship very harmfully.

Motivations and counter-motivations could further be divided according to their degree of consciousness, a division which cannot be paralleled simply with the division between healthy and rational motivations or countermotivations on the one side and neurotic and irrational motivations or countermotivations on the other side.

As mentioned above conscious motivations for family planning of an unrealistic nature can be quite unhealthy. On the other hand, we can encounter unconscious counter-motivations against family planning of at least a partly healthy nature, since to many people the drive or need for conception is inseparable from a real deep love-relationship. Perhaps this is one of the main obstacles to family planning. My personal observations seem to some degree to support this hypothesis, and this was the point Sjovall stressed at the conference at the Hague. We then have to conclude that one of the main reasons why contraception is not more widely used even by those to whom the remedies are available, and who are from a realistic point of view strongly motivated towards its use, is that many people simply are so healthy and so strong in their love-relations that life and the creation of life to them is the primary goal. They will often in a very healthy way be fatalistic too, and ready to accept whole-heartedly the results of their strong feelings. I know that this statement is provoking of controversy, and I know that it has to be modified, but I feel that I should desert among others a lot of very healthy and very well-adjusted women if I didn't stress this point. Remember that we belong to a generation which set free the spontaneous feeling in sexuality, but simultaneously to a generation

which had to accept new limitations in the sexual sphere. This is a conflict with which we must cope, but it was never promised that this could be done completely without any harm. We must admit that the contraceptive methods hitherto considered most reliable badly interfere with the physiological and psychological aspects of sexual life. At this point we are looking anxiously forward to the oral contraceptives proving absolutely harmless and reliable, as they seemingly interfere with natural functions less than the old methods did. However, we still must admit the drawbacks of our methods in the advice we give to groups and individuals, as in individual cases we must look for the method complicating as little as possible the natural functions of each couple.

I feel it not my obligation to give a comprehensive survey of conscious and unconscious motivations and countermotivations. The unconscious longing for a child was described by Dr. Sjøvall at the conference in The Hague, and Dr. van Emde Boas described in great detail at the same conference the effect of early childhood experiences in societies with a strong sex-taboo, resulting in guilt feelings and "touch-taboo", and thus inhibiting rational preventive measures. No doubt this is a true description of factors importantly influencing and hampering family planning among large groups of the population, especially in western civilisation. But even there these factors only describe a part of a pattern in itself much more complicated and differentiated.

Finally, we could look into the emotional factors or the motivations and counter-motivations in relation to the cultural pattern concerned. Both can vary with regard to cultural acceptability or disapproval. The picture is really complicated, as there can well be strong, highly realistic counter-motivations against family planning, and simultaneously a strong external social pressure in favour of it. We all know situations like the one once described to me by a social worker from New Delhi. She visited poor families to try to persuade them to visit the district family planning clinic, but she was repelled with the comment that she ought first to tell the government to look after people when they got old and ill, and then come back to talk about prevention. They wanted children to take care of them in sickness and old age. The government wants nothing better than to develop a social security system, but cannot do so unless they succeed in limiting procreation. Here we are at the very core of one of the main problems of the world today—a new equation seemingly without solution. However, the inner dynamic of this conflict has a threatening strength and we have to be very clever

in handling and helping the development forced by such strong and eventually dangerous dynamics to progress. By its nature the family planning movement finds itself in a dangerous situation working one-sidedly with only one half of the equation; in this case with the half which represents the governmental point of view, the more statistical and long-sighted point of view as seen from the point of the individual family, living here and now. We certainly have to move very cautiously when spreading our ideas, to be humanistic in the right sense of the word, to take the concrete situation of the individual human being into consideration, and to support where we can the development of social progress by other means than just family planning, and to advocate as strongly as possible the development of social security systems. To us it is deadly dangerous to isolate our movement in an ivory tower built of technical instructions, and blind to the human, social and emotional needs of the individuals we are concerned about. It is impossible to be neutral and impartial with regard to such fundamental human needs. At the institution I represent, the Mothers' Aid Centre of Copenhagen, we have tried to develop a programme where the activity of the clinics for contraception, legal abortions and sterilisations is completely integrated into a social-security system comprising everything from financial assistance, housing and legal aid, to training, vocational education, recreation, family counselling and medical and psychiatric treatment.

Now we must make the picture even more elaborate. Motive and counter-motive with regard to family planning ought to be considered as related to a more detailed description of the cultural pattern. We can consider separately the religious part of a culture, or, as we did above, consider the official, government-supported pattern in a given culture and investigate the emotional patterns of the individuals or groups as more or less identical with the attitudes predominating in and supported by the religious or public leaders. And we can furthermore look for the several sub-groups of society to which individuals belong and are dependent on, thus bringing them into identity or into conflict with their groups. The smallest unit is the family which transmits to the individual the influences of the wider civilisation as well as the different subgroups to which the family in question belongs. But also the single family will always develop its own special pattern which influences the development of the individual personality, its emotions and concepts. Conflicting attitudes will certainly develop whenever a society is changing, more so if change is going fast. Conflicts will be common as civilisation

grows more complex, since individuals then tend simultaneously to belong to many different social, religious and other groups, supporting different attitudes to topics such as family planning.

This is then our situation when considering the emotional forces influencing family planning activity. The degree of individual activity as well as the strength of attitudes inhibiting rational family planning is dependent upon a wide range of different yet inter-related emotional factors. Our problem is multi-factorial. To plan or not to plan a family is not a choice between black and white. It is a multi-faceted problem. There are of course some typical traits and common features in different nations and different groups but there are nearly always features which are highly characteristic of the single individual. The variations within the same cultural or geographical groups are considerable. Very often a sub-group in one culture will have more in common with sub-groups of quite another culture than with those of its own. We have, therefore, to be very cautious when speaking about what is typical. Every decision a human being makes in this field, whether about conscious family planning or no planning at all, or about what method to use, is the result of a tug-of-war between a wide range of different feelings, some of them highly individualistic, some of them common to smaller or larger groups of the population. The attitude shown by the single individual is therefore always consciously or unconsciously ambiguous, with the exception of the relatively rare occasions when the sex act has the direct purpose of starting a pregnancy.

This ambiguity or ambivalence of attitude represents both a challenge and a chance; a challenge because it teaches us that what we have to influence is a balance. We shall be cautious striving for our good goals lest by chance we do more harm than good. And we must take into consideration the very individualistic character of the motivations—they explain the very bad effects of propagandistic one-sidedness in this field. We will never succeed in our struggle if we represent an authoritarian, moralistic dogmatism. It is not our task, nor is it possible for us as missionaries to change the fundamental emotional systems, beliefs and attitudes of large populations. What we have to do is to offer information and knowledge about methods and means, about scientific progress, about man, his social, cultural, psychological and sexual condition, and to oppose all authorities and other obstacles which prevent these from reaching all mankind. It is man we have to serve and it is our duty to find remedies and methods he can use in accordance with his pre-dis-

position and his needs. I was very satisfied when in Delhi, to talk to Colonel Raina and to learn that the Indian movement had reached conclusions very similar to this. It is the man, the human being, and not the contraceptive advice, which ought to be the symbol on our banner.

So much for the challenge. Our chance also arises from the ambiguity, because it represents a balance which can be changed. Let me exemplify. Yugoslavian doctors told us at the Conference in Warsaw last year that after the government had developed a family planning programme, contraceptive advice was utilised with special enthusiasm by some large Catholic groups in the population whereas other groups, such as Muslims, only accepted family planning with reluctance, whereas their religion is not opposed to family planning as is the Catholics'. This seemingly paradoxical situation demonstrates the chance that the ambiguous balance gives us between a lot of inter-acting and counter-acting motivations. In this case the explanation was that the Catholics belonged to the more highly developed and urbanised parts of the country, while the Muslims belong to parts of the country more remote from urban civilisation. This cultural factor, added to the complex tug-of-war between different motives, alters the final result in favour of conscious family planning amongst Catholics. There is no reason to be pessimistic, as one perhaps would be if one only considered one factor in this large gamble. There is always a chance, even with Catholics, as we saw marvellously demonstrated in Warsaw by Senora Maria Lansa when she spoke about her work among poor families in highly Catholic Sicilian districts. We have only to remember that our chance does not rest on a single factor, but that it varies; in one country it is this, in another that; with this girl it is one way, with that man another.

Coming to an end with my considerations, inspired as you have perhaps already remarked by participation in the conferences of this organisation, I have the feeling that I perhaps did a bad job, and you perhaps may feel that I brought obscurity and ambiguity where my task was to bring clarity and order. Unfortunately this was the result when I strove for realism and humanism.

MOTHERS' ATTITUDES TOWARDS CHILD REARING PRACTICES IN TWO CULTURES

SMT. SHANTA MATHUR & SMT. INDIRA SHAHI

(University of Patna)

Introduction

A child's attitude and behaviour are markedly influenced by the family into which he is born and in which he grows up. Because the home is the child's first environment, it sets the pattern for his attitude toward people, things and life in general. The child takes his parents as models for his adjustment to life.

The family is the most influential socializing agent. The child develops patterns of social behaviour similar to that of the parents. How aggressive the child will be, will depend upon the way in which he is treated in the home. Children who have been deprived of a normal home life due to wars, natural disasters, industrial dislocation and "social and psycho-social factors" are affected physically, intellectually and emotionally. When parents ignore the child and devote little time to him as he grows older, his poor adjustments frequently lead to delinquency. In a home where parents are over-anxious and concerned about their children, where discipline is inconsistent, and where there is worry, anxiety and lack of a sense of humour, children are more emotional and more subject to temper outbursts than children from homes where less tension exists on the part of the parents. Success or failure in school have been found to be related to the child's relationship with his parents and other family members.

The goal of all child training is to develop in the child the capacity for adjusting himself to the traditional roles prescribed by the cultural group to which the child's family belongs. Children in different cultures are brought up to carry on, in their turn, their parents' manner of life. Parents and teachers are the transmitters of the cultural ideals of their group. These cultural ideals determine the training the child receives, and this in turn, determines what sort of individual he will become. The child-rearing methods employed depend upon the parents.

Throughout the centuries, there have been shifts in the culturally approved child-training methods. Certain contemporary problems,

as breast-feeding, feeding problems and the emotional care of children during illness were discussed as far back as the sixteenth and seventeenth centuries. Since the turn of this century, there has been a marked shift from rigid discipline to an understanding of the child and his need. It is now believed that it is for the adults to meet the needs of the child.

Parents generally use child-training methods similar to those used by their parents. Where both parents were brought up in homes that were similar in child-rearing pattern, they are likely to employ in their own family the methods used by their parents. If, however, they had been brought up by different methods, there is likely to be some conflict as to what method to use and a certain amount of modification of methods. How the mother *perceives* her role as mother and the type of personality she has will markedly influence the child-training method she uses. Before marriage the individual's attitude toward child-training is closely similar to that of his own parents. Pre-parental education, however, has been found to change attitudes toward child-training to greater permissiveness. The greatest resistance to change, however, occurs in areas relating to discipline, sleep, toileting and feeding.

Today, child-training methods fall roughly into two major categories, authoritarian and democratic. Authoritarian methods consist of strict rules and regulations, with severe punishment for misbehaviour. Democratic methods, on the other hand, involve discussion, explanation and reasoning with the child, with more lenient forms of punishment. Parents who are better educated are, as a rule, more inclined to permissiveness than are those less educated. As a rule parents exert more control over their children, when they are young than when they are approaching adolescence.

Variation in child-training methods are found within different social groups. Parents from rural districts are, on the whole, more authoritarian in their methods than are urban parents. Social class differences in child training are very marked. Middle class parents are more exacting in their expectations. They begin training earlier, they supervise their children's activities more closely and they put greater emphasis on individual achievement than do parents from the lower classes. With training, parents of the lower social classes have been found to shift to greater leniency in their child-care practices. The more conservative the parent, the more intolerant he is likely to be in his method of child training.

The Present Study

The present study was undertaken to measure the attitude of the mothers toward the child-rearing practices. This is a comparative study in which mothers of Adivasi and non-Adivasi cultures have been compared. In this study the Likert method was used, but in a modified form. In the original Likert method the scale has five alternative responses—strongly approve, approve, uncertain, disapprove and strongly disapprove, but here only two alternatives—agree or disagree (yes or no) were used. The items were so prepared that they indicate a favourable and unfavourable attitude toward each of the statements. The 'yes' and 'no' answer to a statement shows the favourable and unfavourable attitude of a subject.

The Procedure

In the beginning the scale was prepared and 45 items were selected. The items were selected for the different aspects of child-rearing practices: clothing, food habits, toilet training, schooling, discipline, punishment, love and affection and child-parent relation, etc. After the selection of items it was found out which items referred to a favourable attitude and which to an unfavourable attitude towards the different aspects of the child rearing practices. Data were collected with this from 25 Adivasi women in Ranchi and 25 non-Adivasi women in Patna. These were random samples.

TABLE 1

Proportions of favourable and unfavourable attitudes in the two groups

Aspect	Group	P	Q	SE	SE difference	t value
Affection	Adivasi	.77	.23	.08	.09	1.7
	Non-Adivasi	.92	.08	.05		
Parent-child relationship	Adivasi	.81	.19	.08	.10	.7
	Non-Adivasi	.88	.12	.06		
Cleanliness	Adivasi	.67	.33	.09	.13	.61
	Non-Adivasi	.75	.25	.09		
Discipline	Adivasi	.77	.23	.08	.11	.18
	Non-Adivasi	.79	.21	.08		
Punishment	Adivasi	.55	.43	.1	.14	.21
	Non-Adivasi	.52	.48	.1		

Results

Table 1 gives the percentages of favourable and unfavourable responses for the different aspects of child-rearing practices in the two groups. The table also shows the standard errors and the SE differences.

TABLE 2

Total favourable responses in the two groups

Groups	No.	Percentage	P	Q	SE	SE	Significance
					difference	value	level
Adivasi	743	74.3	.743	.257	.09	.13	.5
Non-Adivasi	678	67.8	.678	.322	.09		

Table 2 gives the frequency figures for the entire scale. Table 3 gives mean and standard deviations.

TABLE 3

Mean differences in the two groups

Groups	Mean	S. D.	SE	SE	Significance
				difference	level
Adivasi	70.68	3.0	.63	1.16	3.05
Non-Adivasi	67.14	4.76	.97		

The results show that there is no marked difference in the attitude of the Adivasi mother and the non-Adivasi mother.

The data shows that in the first cluster (Affection), the favourable answers made by the Adivasi mothers constitute 77% and by the non-Adivasi mothers 92%. The unfavourable answer made by the Adivasi group is 23% and by the non-Adivasi group 8%. The t ratio between the two groups is 1.7 which is insignificant. In the second cluster (Parent-child relation) the Adivasi group answered favourably with 81% and the non-Adivasi group answered with 88%. The unfavourable answers made by the Adivasi group is 19%, and by the non-Adivasi group 12%. The t ratio between the two groups is 0.7, which is not significant. In the third cluster (Discipline) the favourable answer made by the Adivasi group is 77.14% and by the non-Adivasi group 78.85%. The unfavourable answer made by the Adivasi group is 22.86%, and by the non-Adivasi group 21.15%. The t ratio is 0.18 which is not significant. In the fourth cluster (Cleanli-

ness) the favourable answer made by the Adivasi group is 33.3%, and by the non-Adivasi group 25.3%. In this cluster the unfavourable answer made by the Adivasi mother is 66.3% and by the non-Adivasi mother 74.7%. The *t* ratio between the two groups is 0.61 which is not significant. In the fifth cluster (Punishment) the favourable answers made by the first group is 54.8% and by the second group, that is the non-Adivasi group, 48.4%. Of the unfavourable answers in this cluster, 45.2% is made by the Adivasi group and 51.6% is made by the non-Adivasi group. The *t* ratio between the two groups is 0.21 which is not significant.

The proportion showing favourable and unfavourable attitudes in the Adivasi group is 0.743 and 0.257 respectively. The proportion showing favourable and unfavourable attitudes in the non-Adivasi group is 0.678 and 0.322 respectively. The *t* ratio between the two groups is 0.5 which is insignificant. Again we find that there is no marked difference between the two groups in favourable or unfavourable attitudes towards the different aspects of child rearing practices. In both groups we find individual differences towards punishment, discipline and cleanliness. Severe punishment is not favoured by either group. But here also we find that an individual mother has a favourable attitude toward severe punishment when the child disobeys the order. Personal cleanliness, food habit, time of schooling, etc. have a favourable attitude in both the groups. Some of the items have 100% favourable attitude in both the groups as "Parents and Children must have some time together daily".

The mean scores between the two groups are significantly different. The *t* ratio is significant on 0.01 level.

On the whole the results are not so significant. This shows that the attitudes of the Adivasi mother and the non-Adivasi mother are not affected by the culture. There are many other things which affect the attitude. It is believed that culture has a great influence on attitude. But the modern trend of education has influenced the ideas and beliefs of the people to a great extent.

NOTES, ABSTRACTS AND REVIEWS

FIFTH ALL-INDIA CONFERENCE ON FAMILY PLANNING

The Family Planning Association of India is to hold the Fifth All-India Conference on Family Planning in Patna, Bihar. from 18th to 21st January, 1964.

The Bihar Branch of the FPAI is setting up a Reception Committee and will be in charge of all the local arrangements. The Programme of the Conference will include questions regarding population problems, methods of family planning, medical research, planning and organisation of services, education for family living, etc.

A special feature of the Programme will be a whole-day discussion on extension education for family planning. The urgent need today is to intensify the educational arm of the Programme so as to reach out to all married couples, bringing them information on family planning and encouraging and fortifying their resolve to take active steps to plan their own families.

Further information about the Conference will be available in due course from the Headquarters of the FPAI.

FAMILIES AND ADOLESCENTS TODAY*

In an article published in *Familles dans le Monde*, quarterly review of the International Union Of Family Organisations, the I.U.O.F. expresses its desire to "promote the necessary co-operation, not only between schools and families, but between families and youth movements or groups" through the research it is undertaking.

According to the I.U.O.F., there are certain problems which are permanent characteristics of adolescence and family life, and others which are peculiar to the age we live in.

To take the first category : the need to feel secure is a permanent characteristic of adolescence. This security is provided by material welfare and, what is more important, by parental love. But not only must adolescents feel they are loved by their parents, they must have the security which comes from a united family. They must have the conviction that their parents love each other also. Then there is the need to be "understood and accepted just as they are, by their family, their educators and by society."

* From *Familles dans le Monde*, September-December 1962

Now let us consider the characteristics which are peculiar to our times. Foremost among these is a feeling of "early independence" among adolescents. Among some young people there is an inability to accept their responsibilities. A great number experience a sense of isolation, a feeling that youth collectively forms a world apart.

Moreover, adolescence continues longer today than it used to. And young people who are hardly out of adolescence, want "perfect love and immediate marriage hand in hand with the start of professional success"! They are impatient and want everything in a hurry.

So much for the adolescents. What about parents today? There are parents who are uncertain of their role and do not exert the necessary authority. They may be parents who, to find an easy way out, or because they desire to be modern, become "comrades" and "pals" to their children. Again there are those, who, overburdened by the responsibility and cares of their professional life, neglect their responsibility to their children. Then there are embittered and disillusioned parents, and parents with a purely materialistic outlook who think only in terms of the "little car" and the "little house". Broken homes are another characteristic of our times.

Ours is an age marked by insecurity regarding the future. There is a frequent lack of understanding between adults and youth. Both adults and adolescents lack the ability to judge individually and critically. Alongside this there are particular difficulties in the education of young girls who wish to combine family life with a career. Many parents do not recognise this desire and so society itself is not prepared to satisfy it.

We may also raise the question of what "models" society has to offer to adolescents today. With whom can they identify themselves? Today we have replaced the "heroes" of old by "stars" and we ask these people to give all the recipes for happiness and success.

The problems confronting adolescents today may be solved by the following means, suggests the I.U.O.F.:—Parents, teachers and youth leaders should get together to analyse the situation and find out how responsibilities may be shared by the different groups and how they should co-operate to get the necessary result. Their aim should be to help young people form their own judgment, foster their enthusiasm and make use of the community spirit which becomes increasingly natural to them, to make them participate in the "progress, the 'upsurge' of a country, a region, a continent".

WORLD HEALTH ORGANISATION *

According to *The Times*, London, of May 21st, the World Health Organisation is to undertake research into the health problems of human reproduction and especially to enquire into the causes of sterility and of foetal malformations.

The research programme is to be financed initially by means of a grant of \$500,000 from the U.S. Government.

At the sixth World Health Assembly held at Geneva in May, Dr. Luther L. Terry, Surgeon-General of the US Department of Health Education and Welfare, said that little was known about how age and the seasons of the year influenced fertility. He hoped that the WHO would establish a permanent unit for the investigation of this subject, one of the most unstudied in the field of medical research.

THE CHALLENGE OF HUNGER †

. . . Twenty years ago, to the very day, when the world was locked in a mortal combat, a great President of this country (U.S.A.) called the nations together to the Hot Springs Conference to draft the Charter of FAO in order to lay the foundation for an enduring peace. During the last twenty years, while science has increasingly developed man's capacity to remove hunger and want, the extent of the latter has nevertheless continued to grow, due largely to the unprecedented rate of population growth facilitated by the advance of medical science. Never before has it been possible to produce more food on an acre of land, yet never before have the victims of hunger been more numerous in the world. . . .

* From *News of Population and Birth Control*, September 1963

† Excerpt from a speech made by Dr. Sen, Director-General of FAO, at the FAO Conference in Washington, June 3, 1963.

BOOK REVIEWS

Lok Sankhyecha Prashna by G. S. Apte

This book in Marathi by a social worker in family planning has been published by the *Social Enlightenment Organisation* which is devoted to fostering an intellectual approach to India's problems in the socio-economic field.

The title, translated into English, means "The Population Problem". It has been written for the benefit of educational and social welfare workers at the mofussil and taluka or district level. The book is an attempt to explain the population problem to the layman, in simple language.

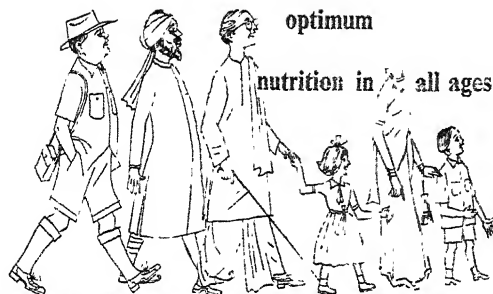
Only the important census data are discussed in the body of the book, while more detailed information about population growth is given in the tables in the appendix. The author commences by discussing such questions as basic human wants that must be met, factors that control and limit production, and the need to maintain an equilibrium between production and population. But the information in this portion of the book is too diffused, it is the latter part which is more informative. Various topics, sometimes not quite relevant to the subject of the book, have been included. However information about the family planning movement in general, the Government of India's programmes for the promotion of family planning in the country, the social background and the individual family's reactions and responsibilities regarding family planning, etc. supply the reader with plenty of material for group talks and lectures on the subject.

This book will be very useful to those who do not know English and who would like to understand in detail the different aspects of the population question.

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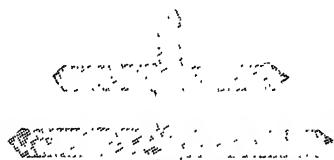
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2. To work for the establishment of Centres where married couples can get advice on,
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 - (b) the use of scientific contraceptive methods,
 - (c) treatment of childless couples desiring to establish a family,
 - (d) marriage problems.
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FAMILY PLANNING COMMUNICATION RESEARCH AND ACTION PROGRAMME IN KERALA*

**DR. N. KRISHNAN TAMPI, M.B.B.S., B.S.Sc. (Madras),
Dr. P. H. (Johns Hopkins)**

I. Introduction

Family Planning has been accepted by the Government of India and by a large proportion of educated men and women in the country as an urgent and unavoidable measure for improving the health and economic conditions of the people. This is particularly true with regard to Kerala. It is the smallest, most densely populated and the most literate State in India, facing grave problems of unemployment among the educated classes, of under-nutrition and low economic condition. An Action-cum-research programme in Kerala to elucidate the factors that are helpful to efforts in promoting the acceptance of family planning by the community, and those which are retarding such acceptance will therefore be of special interest. The Family Planning Communication Research Programme of the Kerala University is working with the above objectives. There is an Action unit for trying out methods of effective mass communication with regard to family planning, and a control unit with similar social and economic conditions where no active family planning education work is carried out, to serve as a basis for comparison and for a correct appreciation of the impact of the action programme. A detailed preliminary survey has been carried out in both the Action and Control units and an action programme has been developed, based on the findings of this survey.

II. Action Unit—Existing Conditions As Shown By Survey In 1962

The Action unit consists of three Panchayats to the north of the city of Trivandrum with a total area of 17.31 sq. miles and a population of 46,018. The density of population in this area is 2,658 per sq. mile against 1,127 for Kerala and 384 for India. There are 8,317 families in this unit, with 7,762 married men and 10,477 married women. The

* This is one of the Projects sanctioned by the Ministry of Health, Government of India out of grants received from the Ford Foundation for Research on Family Planning Communication Methods

number of married females in the child-bearing ages i.e. 15-44, is 7,047. The average family size is 5.53.

The birth rate in this area for 1961 as shown by the survey was 37.25 per mille and the death rate was 9.3 against the official registered rates of 22.95 and 5.47 respectively.

The economic conditions are very low. 12.5 per cent of the families in this area have incomes below Rs. 25/- per month, 39.6 per cent have incomes of Rs. 25-50, 33 per cent have incomes of Rs. 50-100, and only 14.9 per cent have incomes above Rs. 100/- per month. The majority of people are unskilled labourers. They form 45.97 per cent of those earning a living. 18.36 per cent are in public services, 11.36 per cent in agriculture, and 6.44 per cent are skilled labourers.

90 per cent of the residences are mud houses, 92 per cent of the houses have roofs of cadjan leaves and 80 per cent have only mud floors. Water supply is mainly from shallow wells and 56 per cent of the houses have no latrines in spite of five years of a special sanitation programme.

The educational level among those above 12 years of age is shown below :

	Percentages		
	Males	Females	Total
Illiterate	16.70	37.43	27.19
Primary standards	40.70	37.77	39.22
Lower secondary	21.67	13.15	17.36
Upper secondary	16.82	9.67	13.20
College	4.11	1.98	3.03

Out of about 27,900 people above 12 years of age, about 6,000 read Malayalam daily papers, many of them from village reading rooms, shops and from well-to-do neighbours, 5,217 people read Malayalam papers or magazines occasionally, most of them being more interested in short stories than in educative articles.

Religion, community and marriage

Various religious and social groups are met with in the area. Among 18,239 married men and women, 6,513 are Nairs, 3,309 Ezhavas, 1,481 Nadars, 1,974 Scheduled Castes, 2,317 other Hindus, 1,012 Roman Catholics, 1,050 other Christians and 491 Muslims. The average age at marriage of males in these groups varies from 23 for Muslims and

Roman Catholics to 25-26 for the other groups, and for females from 17 for Muslims and Brahmins to 18-19 for other groups.

The average age at first pregnancy for females is 19.8, 5,196 first pregnancies occurring in the 15-19 age group and 3,745 in the 20-24 age group out of 10,124 first pregnancies noted.

Attitude to family planning—males

5,454 males considered family planning desirable, 1,494 were indifferent, and only 814 considered it as undesirable. 73.3 per cent of those in favour of family planning did so on account of poverty. Among those who objected, only 19 per cent did so on religious grounds. 14 per cent objected to mechanical devices. Males in favour of family planning were mostly in the age group 30-39. Those favourable to family planning were 64.7 per cent among illiterates and 70-78 per cent among educated persons. Religion did not show any appreciable influence with regard to attitudes towards family planning.

Attitude to family planning—females

6,644 females, i.e. 1,190 more than males, were in favour of family planning, 73.5 per cent on account of their poverty and difficulty in bringing up a large family. 2,886 were indifferent with no opinions to express for or against. This is nearly double the corresponding group among males. Only 947 females expressed opinions against family planning, 19.7 per cent on religious grounds and 14 per cent due to objections to the use of artificial methods. Those favourable to family planning were mostly in the age group 25 to 39. They were 56.3 per cent among illiterates and 69 to 72 per cent among the literate groups. The numbers among those with college education are too small for comparison. Among religious groups, those favourable are about 56 per cent among Roman Catholics and Muslims, 59 per cent among scheduled castes and 65 to 67 per cent among Nairs and Ezhavas who form the biggest groups of the population.

Knowledge of family planning methods and the practice of family planning

The Action Unit has three big hospitals within easy reach where sterilisation operations are done, and five family planning clinics, also within easy reach. Family planning propaganda has been going on in this area for about four years. In spite of this, the practice of family planning appears to be exceedingly limited. 134 males and 130 females have been sterilised. 42 females report the use of spermicidal jelly

and 14 males report the use of condom. It is very likely that figures about the use of contraceptives are far below the actual numbers, as people are unwilling to give that information, but there is no doubt that those practising family planning methods are very few when compared with the large body of men and women in favour of family planning and the numbers who are aware of one or other of the common methods of family limitation. This shows a very weak motivation generally in regard to family planning. About 3,158 males and 3,113 females claim some knowledge of family planning, the numbers increasing with the rise in educational level. This knowledge however is very incomplete and hardly sufficient to help in acceptance of family planning.

One Panchayat in the Action unit area has no family planning clinic. Arrangements are being made in this area for distribution of condoms and foam tablets by men and women volunteers with the active cooperation of the Panchayat. This type of non-clinical approach to the acceptance and practice of family planning in rural areas will also be closely studied.

III. The Problem And The Objectives

The problem faced by this project is to make the 8,317 families in this area realise that limitation of the family is eminently desirable for better health for the women and children, and for better opportunities for all of them to face the struggle for a higher standard of living. The 10,477 married females in this group, particularly the 7,047 married women in the age group 15-45, have to become alive to the fact that their health and their opportunities to work for the good of the family are intimately bound up with limitation of their family, that such limitation is now possible using modern scientific methods, that these methods have no bad after-effects, and that there are methods widely and effectively practised all over the world, suitable for spacing children and for permanent control of pregnancy when they have already had all the children that they desire and that they can bring up with suitable education and care.

This message has to reach over eight thousand families, two-thirds of whom are either illiterate or have studied only up to primary school standards. The message has therefore to be couched in very simple language, using various types of audio-visual aids and has to be repeated in various forms, if action is to follow.

The target population consists mostly of poor labourers who are away for the greater part of the day in the fields or markets and who

are therefore difficult to reach. The message is delicate in nature and has to be given to small groups or individuals when they are not surrounded by children and old relatives. A favourable public opinion has to be created for active transmission of this message in the villages, and better facilities have to be provided in hospitals and clinics so that those desiring family planning services and supplies may get them without much inconvenience and delay.

IV. The Action Programme

The Action area has been divided into 140 centres, each centre serving an average of about 55 married couples spread over 60 houses. Two to three group meetings are held weekly at convenient houses in each centre, separately for men and women. At these meetings, the Sociologist (for women) and Health Educator (for men) explain to the group the various family planning methods available. Flash cards are used to explain the ideas, contraceptives are shown to them and pamphlets are distributed. The Investigators go round previously, making house to house visits to invite people to these meetings. The husbands and wives are requested to discuss the subject at home, and further home visits are made when doubts are cleared and chits issued to help them to get the necessary services and supplies at convenient clinics or hospitals. Visits are made to hospitals to check up the services actually given. Further rounds of visits are made to those who have not attended group meetings and those who have not made use of the chits.

Cinema shows, exhibitions and public meetings are arranged at important centres in cooperation with the C. D. Blocks, Panchayats and non-official agencies interested in family planning to stimulate active interest in the subject. Special attention is devoted, both in the Action and Control units, to finding out births and deaths and to arrange for their registration and also to note the names of people availing of family planning services in clinics and hospitals, as the success of the action programme is to be measured by the reduction in birth rates in the area, by the number of persons sterilised, and by those actively practising birth control.

The Statistician of the Project is collecting all the above data. Detailed cards are also made out for all sterilised cases and those practising birth control to assess the influence of the factors responsible for their acceptance of family planning. A few depth surveys of the above groups are also being carried out to elucidate the factors at

work in regard to the acceptance of family planning. All this data will be analysed later by the Department of Statistics of the University of Kerala.

The Department of Demography that has recently been started in this University is following up this action programme with more intensive studies to note changes in households containing women in child-bearing years, to investigate the characteristics of people who express various degrees of interest in the family planning programme, and to develop useful data in estimating births and deaths. It is expected that these studies will also be helpful for the Action programme undertaken by this Project.

REACTIONS OF URBAN EMPLOYEES TO VASECTOMY OPERATIONS

SHIRLEY B. POFFENBERGER

and

DHIRU L. SHETH

In mid-year 1962, the Baroda Kutumb Kalyan Kendra Family Planning Clinic¹ of Baroda, Gujarat State, engaged several persons to conduct a study² of men who had recently undergone vasectomy operations. These operations had been performed as a service of the clinic, free of charge or on a low-cost basis, depending upon the individual's income.

The interviews were of interest to the directors of the Kendra as an evaluation of the men's satisfaction with the operation, and as a means of ascertaining effectiveness of their educational techniques and/or any problems related to the operation. Clinic records of 81 men were available. Of these 81 cases, 61 were interviewed who had undergone vasectomy not more than two years before.

An interview schedule was followed by several persons who questioned the men privately regarding their decisions to have the operation, their previous experiences and opinions relative to the use of contraceptives, and their evaluation of the vasectomy, including general satisfaction and the pattern of coital adjustment following surgery.

Characteristics of the sample

Occupation, residence, place of employment, and income data were available in clinic records. Interview data included the number of wage-earners in the family, whether the family was unitary or extended (joint), educational status of husband and wife, ages of husband and

1. The Baroda Kutumb Kalyan Kendra was established in April 1960, as a society to promote the welfare of families residing in the suburban and industrial areas of Baroda City. It is located in conjunction with a factory dispensary at Jyoti Ltd., Industrial Area, Baroda 3. After beginning with a programme of maternal and child welfare, it extended its services to family planning activities, including prescription and supply of contraceptives, counselling and arrangements for sterilization operations.
2. The study was sponsored by Mrs. Savita Amin, the Chairman of the Governing Board of the Kendra. Dr. I. P. Desai, Chairman of the Department of Sociology, M. S. University of Baroda, guided the project which was directed by D. L. Sheth, who led the interview team and prepared a report. The present paper was written by the senior author after her further analysis and interpretation of the data.

wife at the time of marriage, number, sex and ages of children born to the couple, religion and caste information. Background characteristics follow:

Residence. The majority of the men gave their permanent address as Baroda, with highest representation (51.0 per cent) coming from two large participating factories, and additional representation coming from eleven other places of employment.

Occupation. Over three-fourths (78.7 per cent) of the men were manual workers. Remaining classifications were: 11.3 per cent in "white collar" jobs, 3.4 per cent in "factory managerial" work, 3.4 per cent "Hindu priests," and 3.2 per cent self-employed as artisans or having a small business.

Income. Annual income data revealed that fewer than ten per cent of the men earned over 250 rupees per month. The average (mean)³ income was 138 rupees per month, with twenty per cent of the men earning less than 100 rupees per month. Over three-fourths (79.0 per cent) indicated that they were the only wage-earners in their families.

Type of family. Almost two-thirds (62.4 per cent) of the men's families were unitary, i.e., consisted of husband, wife and children with no additional relatives living in the household. About half of those who indicated that they lived in extended families said that they lived with one or both parents. More than one-fourth of the men indicated that they lived with married or unmarried brother(s) and children or other relatives. Family size indicated a range from six to fifteen members.

Religion. Persons in the sample were predominantly Hindus, of eleven caste classifications; 9.8 per cent remaining men were distributed among Muslims, one Parsi, one Jain and three for whom no information was available.

Education. Nearly half (47.6 per cent) of the men indicated that they had at least some primary school education, while over half (57.0 per cent) of the wives were reported to have attended primary

3. Based on 55 cases: one, a typically high salaried person, was dropped from the computation of mean income; income for five additional cases was not reported. Additional monthly income, averaging 140 rupees contributed by other family members, was disclosed by nine men in the sample.

Men whose income did not exceed 300 rupees per month were eligible for a free vasectomy, paid for by donations to the Kendra by employers and others. Concessional rates were arranged if indicated for persons with salaries above 300 rupees.

school. Over one-third (36.1 per cent) of the men had attended secondary school, as had 6.7 per cent of the wives. A few men (3.3 per cent) in the sample indicated that they were illiterate, and 4.8 per cent reported having had either college or technical education. Thirty-three per cent of the wives were reported to be illiterate; few wives (3.3 per cent) had completed any college education.

at vasectomy. Age data indicated that there was a considerable age-differential between husbands and wives in the sample. Wives tended to be 7.3 years younger on the average than husbands in the sample. Mean age in years at the time of the husband's vasectomy was as follows: husbands, 37.1; wives, 29.8. More than half (59.0 per cent) of the wives were at an age which is generally considered to be one of high fertility—21 to 39 years, when the husbands underwent sterilization. Over two-thirds (68.8 per cent) of the men were between the ages of 31 and 40 years.

TABLE 1

Comparison of husbands' and wives' ages at the time of the vasectomy operation

Age-range (in years)	Husbands (Per cent)	Wives (Per cent)
21-25	0	18.0
26-30	10.0	41.0
31-35	36.0	27.8
36-40	32.8	13.2
41-45	16.4	0
46-50	4.8	0
Total	61	61
Mean age	37.1	29.8

It will be seen in Table 1 that 18.0 per cent of the wives were younger than the youngest husbands in the sample, and that 21.2 per cent of the husbands were older than the oldest wives in the sample.

Age at marriage. The mean age at the time of marriage was 23.4 years for husbands, and 16.1 years for wives. The majority of the couples (67.3 per cent of the men; 60.4 per cent of the women) had married between the ages of sixteen and twenty-five years. Far more women (39.6 per cent), however, had married between the ages of

seven and fifteen years than had men (6.7 per cent). Also, no women had married at an age older than twenty-five years, while over one-fourth (26.0 per cent) of the men indicated that they had married when they were between the ages of twenty-six and thirty years.

Length of time married. The mean length of time the couples had been married was 12.3 years. Over half (53.2 per cent) of the couples had been married from eleven to sixteen years at the time of the husband's sterilization. Almost one-third (31.0 per cent) of the sample had been married between seventeen and thirty years. Persons married between five and ten years made up 15.5 per cent of those who underwent a vasectomy.

Number, sex and ages of children. The mean number of children per family was 4.5. In the total sample of 270 children, there were 15.6 per cent more males than females. Almost half (49.0 per cent) of the men indicated that they had a youngest child less than two years of age; the mean age of the youngest children was 2.4 years. Ages of the eldest children indicated that the mode was "ten to twelve" years; the mean was 11.8 years. In almost two-thirds of the families both eldest (60.0 per cent) and youngest (62.0 per cent) were males.

FINDINGS

Motives for the operation

The men were asked why they felt the need to limit the size of their families. The responses indicated that the major reason (57.5 per cent) was their poor economic condition. Proper upbringing of children, including need for food, clothing, and education was mentioned by over one-third (34.6 per cent) of the group. The "wife's ill health" was stated as a major reason by one respondent. Some (number not recorded) respondents indicated that they would have had the vasectomy operation sooner if they had known about it and/or had been able to afford it.

Remarks which showed awareness of the economic needs of the family in an urban area were made by two men as follows: "I was getting terribly anxious at the increasing number of children. At the birth of my last child I decided this had to be stopped—otherwise I would be ruined. One has to think of the future, also! Ultimately I found the solution in the vasectomy operation," and, "I should not ignore the fact that now I have to live in the city for my whole life. I therefore thought—if I have to cope with the living standards of the town, limiting further progeny is the only way out."

A husband who had an ill wife remarked, "When I find it extremely difficult to take care of the living children, how can I afford to have more of them? I have to maintain five children and an ill wife, and my income is only 110 rupees per month. My wife suffers from tuberculosis. How can she bear any more children?"

Moral indignation was registered by one father who said, "I decided to prevent further births only because I love children. I cannot see the pitiable faces of half-starved children." Another remarked, "I am the only earner in the family of seven and my wages are very low. In such conditions, how can I afford to have more children? I believe it is a great sin to have many children if you cannot feed them!"

One father of five commented that persons subsisting on wages like his (120 rupees per month) should not have more than two children—or at most three—in order to rear them in a proper manner. When asked why he did not have a vasectomy sooner, he said that there was no opportunity for having an operation free of charge, that when it was made available, he seized the opportunity immediately. He remarked that he was among the first few who volunteered for the vasectomy when it was made known to them in the factory where he worked.

Previous efforts to limit family size

The respondents were asked whether or not the decision to have a vasectomy was their first decision to limit their family size or whether they had made some previous effort(s) to avoid having more children. Almost two-thirds (62.7 per cent) of the men indicated that they had never made any prior effort to avoid having more children. Thirty-one per cent of the sample had used contraceptives; one person indicated that he had tried abstinence from sexual relations.

Dissatisfaction with contraceptives

Of the 31 per cent who used contraceptives, all indicated dissatisfaction with them as a method of birth control. Two remarks were: "I had tried contraceptives before I got operated, but in course of time I found them unsuitable in preventing further progeny. I therefore decided on the operation," and, "After I got three children, I decided not to have any more. I therefore used contraceptives but after some

time I got disgusted⁴ with the contraceptives. I decided on the opera-

Three persons who had used contraceptives to space the birth of children remarked that they had done so only until they had the desired number of children and after that they decided to have the sterilization operation.

Misinformation and misuse of contraceptives

Of the 17 persons who were using contraceptives before having the vasectomy, four indicated that they had received information from a family planning centre, five said they knew about contraceptives from advertisements, and eight had learned about them from friends or others.

About half of the persons who had used contraceptives indicated that in using them they had experienced failure to prevent conception one or more times. They were not asked where they had procured the contraceptives, what they were using, or whether they had received any professional advice concerning the use of the contraceptive. Lack of knowledge about contraceptives, misinformation, and to some extent, the use of poor quality materials, were indicated in the respondents' comments.

One man said that he had purchased tablets which his wife had swallowed with some ill effect. The same person said that he had also taken his wife to someone who had given her "injections" to prevent conception. He said he had got his information from reading it "somewhere."

Failure of condoms during coitus was mentioned by several men who indicated that these had torn. Also, four others said that they gave up using condoms because they feared they might tear during use. Several persons mentioned inconvenience, expense, and/or disgust as their reasons for giving up the use of condoms. One man said he believed that he would become diseased if he used condoms permanently.

4. Thomas and Shirley B. Poffenberger: A Preliminary Investigation of Voluntary Vasectomies in California. *Marriage and Family Living*, Vol. 25, No. 3, August 1963. Also, Poffenberger, Thomas: Voluntary Vasectomies Performed in California: Background Factors and Comments. (Accepted for publication, *Marriage and Family Living*, Vol. 25, No. 4, November 1963). In research conducted in the U.S.A., found that dislike of contraceptives for aesthetic reasons as well as fear of failure to prevent conception caused the sample studied (factory workers, white collar workers, and professional persons) to undergo vasectomy as a preferred method of birth control.

Ignorance and misconceptions were also generally evident in the responses of the majority (69.0 per cent) of the sample who had not used contraceptives prior to having the vasectomy. One respondent said, "I repent very much for my ignorance about the contraceptives you talk about. Had I known about them, things would have been different. I would not have allowed myself to have had so many children."

Four men remarked that they were only partially informed about contraceptives. They admitted they had no idea how to use them or where they might be available. They said that they had no confidence in contraceptives although they lacked any experience with them. Their remarks indicated that their judgements were based upon the comments of friends rather than upon objective evaluation of various contraceptive methods.

Aversion to the use of contraceptives as a result of a friend's influence was evident in the following remark, "I knew about contraceptives but did not use them. Some of my friends who used them told me it was very dirty to use contraceptives. I therefore preferred to have the vasectomy operation, even at the age of thirty-one years."

A father of four children said he had known about the vasectomy and should have had the operation after the birth of his third child. He admitted that indecision to have a vasectomy allowed him to father another child. His comment was, "I did not use contraceptives in this period because I considered them to be very filthy. I had a sort of nausea about contraceptives. It is true, however, that I should have had the operation two years ago."

Reasons for not using contraceptives included also the belief that they were unnatural as a means of preventing conception and that they might create some complications, that using them was against their belief, that they were "meant for prostitutes and not for responsible people like us," that contraceptives were "costly," that they lacked necessary privacy in their homes to use contraceptives, and that they couldn't enjoy sexual relations using contraceptives.

Eight respondents indicated that they had had no information about contraceptives or other methods of family planning, and that when they heard about the vasectomy they had resorted to this method. One man said that he had become so concerned about his economic condition that he had sought advice from a friend who told him to have a vasectomy operation, as he had already done.

Three respondents, between forty and forty-five years of age, indicated that it was "too late" when they came to know about contraceptives or any method of family planning. They indicated that they had five or six children before they realized they had more children than they wanted. After inquiring about ways to prevent further conceptions, they learned about male sterilization and decided it was the only alternative suitable to them.

One father of six remarked, "I had no idea that there were methods to prevent births without influencing sexual relations. When I heard about such things in my factory, I approached the doctor of the Family Planning Centre (Kendra). The doctor advised me to undergo the sterilization operation rather than use contraceptives for I had many children already and did not want anymore."

Male sterilization vs. female sterilization

The men were asked whether or not they had previously been informed about female sterilization, and whether they had considered asking their wives to undergo sterilization. All but two persons indicated that they had known about female sterilization. Their comments were to the effect that they had been influenced to have a vasectomy because of friends' comments and because of persuasive talks by doctors who had discussed the nature of the surgical procedures and pointed out the relative ease of the vasectomy as compared with the female operation which involves a period of hospitalization.

The possibility of incurring hospital expenses and/or some complications which might arise in the wife's operation was considered by some of the husbands, as was the idea that the wife's operation should only be performed at the time of childbirth — which condition was not to be condoned by the men in the sample. The wife's health was a consideration for those whose wives had some health problem, since they feared some lasting weakness or disability as a result of the female operation. Some persons believed extra medical expenses might be incurred as a result of the salpingectomy, whereas this was not considered so much of a possibility in relation to vasectomy.

Comments did not always indicate whether the respondents had based their decisions on factual information or upon persuasion by persons who had already undergone vasectomy, but in many instances it was evident that advice given by doctors had been reinforced by other persons' comments so that the men had become emotionally resistant to the idea of having their wives undergo surgery. Only

four persons indicated that they had been hesitant, wishing instead that their wives could have a sterilization operation. They said that conditions had been so pressing that they decided to have the vasectomy in spite of their reluctance.

Risk for the wife, including fears of disability and even fatality, factors relating to the problem of hospitalization—including the wife's absence from the home and costs of convalescence were mentioned by almost all respondents.⁵ Remarks did not generally indicate mutual decision-making of husbands and wives, but rather that decisions had been made by the men as a result of hearing talks by doctors and having discussions with male friends at the place of employment. In six instances mention was made that the wife thought she should undergo an operation rather than her husband; in one instance the wife indicated that her husband should undergo sterilization or she would!

Comments such as the following indicated that negative feelings towards female sterilization were a factor in the men's decisions: "In our factory the problem of sterilization was discussed in the meetings. It was made clear by the doctor and others that male sterilization is better than female sterilization. I also believe so. The woman's operation is a major one and is considered very risky. Besides, it may also involve some expenditure. I believe that female sterilization is particularly not advisable for our women (workers). They cannot take rest after the operation, and consequently fall ill. This happened in the case of my brother-in-law's wife and my friend's wife—the very persons who came to advise me for my wife's operation."

Complications and even fatality were believed to have been the result of the female sterilization operation: "I was aware of the possibility of my wife's sterilization but I decided on my own operation. I know of one case—sister of my previous wife—who died of this operation. Besides, female sterilization takes much time!"

Another husband reasoned, "My wife is very weak. She cannot bear such a major operation, while my health is very good! Besides, the vasectomy operation is very simple and does not involve any expenditure." Another respondent indicated that fear about his wife's health and the fact that she could not do any heavy work convinced him that he should have a vasectomy.

Information and rumours had also been heard outside the factory or place of employment. One man said he had heard elsewhere that

5. No tabulation was available.

the "woman's operation is absolutely irreversible, while the male operation — in certain cases — has been reversed to enable him to have children again." Another remarked, "In Bombay, a woman conceived even after her operation." He said that this had made him lose faith in the effectiveness of female sterilizations.

Family reaction to the man's decision to undergo vasectomy

Husbands were asked to comment on their wives' reactions to their intention to have a vasectomy. Virtually all reported that the wives (94.0 per cent) had willingly agreed to the husbands' decisions; only four were said to have opposed the idea. In one case the wife was fearful that the husband would not be able to engage in coitus; another feared a calamity might befall their children whom they could not then replace with others. One wife was reluctant, fearing the outcome of the husband's surgery; another thought the husband should not have an operation since they had only three children.

In at least one case it was evident that the wife had taken the initiative and had "pushed" the husband to have a vasectomy. He said his wife told him, "If you are not prepared for the operation, I shall undergo sterilization, but there is no use delaying any more." He explained that his decision was influenced by the fact that the vasectomy is a minor operation.

Other wives were said to have been pleased with the husbands' decisions. One respondent said, "My wife was more happy than I with the decision. She was very enthusiastic from the beginning and gave her thumb impression very willingly." (The thumb print was required for legal consent in the cases where wives were unable to sign the release.) Another respondent remarked, "My wife willingly cooperated with me in taking this decision. She realized the operation was in her interest. She was very tired of frequent pregnancies!"

Six of the wives wanted to undergo sterilization themselves because they thought it was improper for their husbands to have any trouble or inconvenience.⁶ It was reported, however, that they did not oppose the vasectomy when their husbands persuaded them that male sterilization was a minor operation. Only one wife continued to oppose the decision but her husband said that he "neglected her opposition," and underwent surgery.

6. Shirley B. and Thomas Poffenberger: Interview Report of Fifty-Six Sterilization Cases Performed at a Rural Camp. *Journal of Family Welfare*, September 1962, reported similar comments made by Gujarat village women who had undergone female sterilization rather than allowing their husbands to undergo vasectomy.

Twenty-three per cent of the sample indicated that fear of disapproval or opposition kept them from revealing their intentions to have a vasectomy; seventy-four per cent remarked that they were indifferent to possible disapproval, and in some cases said that they had actually let others know of their decision because they were proud of their resolve to limit the family size. It was not known whether the men had let persons other than their wives know before or after having surgery, although some of the respondents indicated that even though they had kept their decisions to themselves before the operation, they had let others know about it afterwards. One commented, "I had kept secret my decision from all relatives as well as from friends, lest they try to dissuade me. After the operation I did not mind having the news disseminated." He explained, "I particularly kept it secret from my friends because they would have cracked jokes and ridiculed me. Now, all my friends know about it. In fact, I explain to them the advantages of the operation!"

Two persons mentioned they had not advised others of their operation because they believed that they would make "filthy" jokes or ridicule them; one of these men remarked that he had decided to let relatives know, "because relatives are our well-wishers." Another commented, however, "I feel ashamed to tell about such things to an adult son or old mother."

The data indicated that in 69.0 per cent of the cases there had been approval by family members who were told about the respondent's vasectomy; in eight per cent of the cases there was disapproval. The remaining persons (23.0 per cent) had apparently not as yet told family members.

In the cases where the respondents had discussed the decision with family members before surgery and found disapproval, the following reasons were given: (1) the respondent was too young, considering the ages of his children, (2) the respondent should not undergo sterilization because he had only female children, and (3) the respondent's wife should undergo sterilization instead.

Misconceptions and fears regarding vasectomy

Respondents were asked if, before the operation, they had heard anyone say that "the vasectomy renders a man incapable of enjoying sexual relations." If they had heard this, they were asked what they had thought or done about it. About half the group (49.3 per cent)

said they had not heard this; 3.0 per cent did not answer the question. Of the remaining persons, 36.0 per cent indicated that they had heard it but had not believed it. Remarks indicated that they had already made the necessary inquiries from a doctor or professional clinic staff member. One man said he hadn't cared whether it was true or not: "I was so fed up with having so many children that I was even prepared to prefer complete impotency to one more child!" The remaining respondents (11.7 per cent) indicated that they had been very frightened when they heard this remark, and that they went immediately to the clinic or to some doctor and discussed their doubts. One man said that he was not even reassured after the doctor's explanation of surgery, but that a friend had reassured him by telling him of his own experiences with the vasectomy, and he then believed that it would not affect his enjoyment of sexual relations.

Degree of satisfaction with the operation

The purpose of the vasectomy is to prevent conception by preventing the passage of sperm cells in the vas deferens without impairing the man's ability to engage in and enjoy coitus. The investigators asked the men whether these two conditions had been met.

Eighty-seven per cent of the sample indicated full satisfaction; 11.5 per cent commented that due to the recency of their operation they were not yet in a position to judge one or both conditions. One of the latter men indicated that he was reserving judgment — that he wouldn't believe in the operation's success until at least two years had passed without his wife's conceiving, as she had conceived so regularly in the past. Only one person reported the purpose had not been served; in this case it was found that he was disgruntled because his wife had conceived.⁷

Changes in coital activity following vasectomy

Interviewers asked respondents to make subjective comparisons of coital "pleasure," "desire," "frequency," and "endurance," after having the vasectomy — to find whether they had noticed any change ("increase" or "decrease") in these aspects of coitus. Table 2 illustrates the extent to which the men believed changes had taken place.

7. Investigation of the case revealed that he had undergone vasectomy thrice by different doctors and that after every operation his wife had conceived. The medical opinion in this case was that he had an additional vas deferens which could not be located. His wife finally underwent sterilization.

TABLE 2

Respondents' ratings of several aspects of coital activity following their vasectomy operations, as compared with coital activity before surgery

Aspect of coitus	No comment* (Per cent)	Decreased (Per cent)	Remained the same (Per cent)	Increased (Per cent)
"Pleasure"	6.5	6.5	72.0	15.0
"Desire"	16.4	9.7	59.1	14.8
"Frequency"	16.4	9.7	59.1	14.8
"Endurance"	16.4	6.5	62.3	14.8

The majority of the men believed that their coital activity and pleasure had remained the same or had increased. Comments revealed that in a few instances, increased activity was noticed after resumption of coitus but that the frequency of coitus eventually became more moderate and/or similar to the person's former pattern of sexual activity. In a few instances, the remark was made that although coital activity seemed to be somewhat less frequent than before, the respondent believed that coitus was more satisfying because of absence of worry about conceiving more children.

Lack of change in any aspect of sexual relations was indicated in the following comment: "I enjoy sexual relations equally well after the operation. I do not find any difference in the pleasure I derive today from coitus than I did before the operation. I used to cohabit almost daily before the operation, and it has remained the same, if not more, after the operation."

Another respondent said, "I find my sexual relations today, as natural as they were before the operation. I do not feel that the operation has changed them in any way. I used to cohabit once or twice a week. After the operation, this has not changed. I do not find any difference in the pleasure I derive from coitus after the operation."

Illustrative of the temporary change noticed by a few men was the following remark, "The operation has not disturbed my sexual life in any way. I enjoy sexual relations in the same way as I did before the operation. I would like to say, however, that in the first few months after the operation you feel very desirous. After a couple of

* In a few instances respondents were unable to comment on one or more aspects of coital activity, saying that not enough time had elapsed to judge or that they did not wish to discuss intimate details such as the evaluation required. Only four persons declined to make a general evaluation ("pleasure"), and three of these said they had not yet resumed sexual relations so could not. The tabulation for the table was 61 cases.

months your desire for sex gets stabilized and hence you do not feel any unnecessary irritation or disturbance."

Duration of the sex act was believed to have increased for almost fifteen per cent of the group. One comment made was, "I find sexual relations extremely pleasurable after the operation. The duration of coitus was hardly two minutes before the operation. Now it has increased to four or five minutes. Before the operation, I even tried to avoid sexual relations as I feared pregnancy, but now I look forward to them very pleasurably."

"Fake desires" were mentioned by one man who indicated that although his cohabitation pattern involved less frequent coitus after surgery, that he enjoyed his sexual relations the same as before: "Now I am not disturbed by frequent and fake desires. My endurance capacity has not altered. Also, I feel my health is improved after the operation. I feel as dexterous as before."

Six men indicated less desire and frequency in their coital activity but only two of them seemed to consider this adversely. In both the latter cases it was mentioned that the respondent had difficulty achieving a complete erection. One man was convinced that his problem was his "defective semen"; the other indicated that he had never been completely convinced that he should have undergone the operation. He felt that his wife should have done so considering the fact that he was doing manual labour.⁸ The latter person experienced some unexplained swelling in the genital area almost a year after the operation; this he associated with the previous surgery, but did not indicate that he had seen a doctor. He said, however, that the condition was no longer present.

One man who had apparently had a rather active sexual life (i.e., age: thirty-three years, father of five children, married fifteen years and having an active mistress as well as wife) indicated that now (eight months after the vasectomy) he felt somewhat unsatisfied after coitus. Both his wife and his mistress, he said, assured him that they experienced no change in satisfaction in their coital relationship. Although he felt a vague dissatisfaction, he admitted he felt "much better in all respects," that his health had improved and he had gained in weight and physical strength.

8. This case was investigated by the clinic social worker who found that the worker had been demoted due to misconduct at the time of the operation. His demotion caused him to be engaged in manual labour and have less income. He was disgruntled regarding the total situation.

Attitude toward recommending vasectomy

Considering personal experiences and adjustment, would the respondent recommend the sterilization operation to others who might be in similar circumstances? Over half (60.7 per cent) of the men indicated that they had already recommended the vasectomy to others. An additional 26.3 per cent, or most of the remaining persons, said that they would recommend the vasectomy if they were asked by others. Thus, virtually nine-tenths of the group either already had recommended or said they would recommend the vasectomy. Four men indicated they were not interested in doing propaganda; two others said that they would recommend it with reservations, and one said he would not recommend it.

The majority who had recommended the vasectomy were highly enthusiastic. An active propagandist remarked, "I recommended the operation to a friend of mine working in the factory. Now he is operated and finds himself very happy. Whenever someone comes to me for advice, I tell him about the advantages of the operation. At present, I am persuading my barber to undergo the operation as he is very poor and has many children. I recommend the operation on the ground that it is absolutely harmless, as it does not affect your sexual relations. On the contrary, you enjoy them more after the operation! Moreover, the operation improves the health of the husband as well as of the wife."

Misconceptions about health

In one instance a man indicated a subsequent health problem or complication and believed that the condition was related to the vasectomy he had undergone. He said, "I enjoy sexual relations as I did before the operation, but I feel bodily weak since the operation. I cannot say, however, that this change is due to the operation. This may be due to the fact that I take less food now than before." Even though this person had some insight regarding his own weakness he went on to attribute his wife's menstrual difficulties to his vasectomy. He remarked, "The operation seems to have had some bad effect upon my wife. She was menstruating regularly and was in good health before the operation. Now she is menstruating irregularly and does not feel healthy. I consider this to be a defect of the operation."

Comments⁹ referring to unrelated health conditions indicated that the men tended to associate with vasectomy, changes in health or

⁹ No tabulation was available

temporary conditions. Excellent and/or improved health, including weight gain and increased vigour were believed by some to be directly related¹⁰ to their vasectomy operation.

Discussion

The purpose of this exploratory study was to survey satisfaction with the vasectomy operation on the part of men who had recently volunteered to undergo sterilization as a means of permanent birth control. Interviews and clinic records revealed background information, experiences and attitudes pertinent to the general area of family planning. These data may be useful if tested in the form of hypotheses in research and/or in educational campaigns related to motivating persons to adopt a method of birth control. Variables related to motivation to have a vasectomy in this sample of industrial workers appeared to be: single family residence in the urban area, having four to five children, having sole responsibility for family income, belief that the vasectomy was superior to female sterilization, and having strong negative attitudes toward the use of contraceptives. Interviews with the subjects indicated that urban living did not provide adequate space for large families, that fathers were concerned about education costs as well as costs of providing shelter, food and clothing for many children. Absence of income other than low wages was a situation faced by most of the men who tended to reject contraceptives as not sufficiently reliable as well as disliking them for aesthetic and other reasons.

The study supports data found in the U.S.A. (Poffenberger and Poffenberger, *op. cit.*), indicating nearly complete satisfaction with the vasectomy operation. The use and positive influence of an educational campaign planned for low income persons of relatively low educational background is given some support as a factor in the men's final decision to have a vasectomy.

Summary

Coital adjustment and general satisfaction with the vasectomy operation as a preferred method of birth control were investigated in an exploratory study, by the Kutumb Kalyan Kendra (family planning clinic), Baroda, Gujarat State, India, 1962. Information was collected from 61 men and from their clinic records by a team of interviewers

10. Although improved health and weight gain could have occurred as a result of lack of anxiety about costs related to increasing number of children, such health conditions are generally considered to be only indirectly related and of course do not follow in all cases. The report indicated a predominance of positive remarks pertaining to the respondents' health following the vasectomy operation

who conducted the study during the period of time ranging from several months to two years following the subjects' surgery. The men in the sample were asked to compare post-operative sexual adjustment with that experienced prior to the vasectomy, relative to pleasure, desire, frequency, and endurance of coitus. Similar or improved sexual adjustment was generally reported, and satisfaction with the vasectomy was almost unanimous. Attitudes toward female sterilization were reported to have been negative because of possible costs and recuperative problems of convalescence. Use of contraceptives had been almost nil but the subjects indicated negative attitudes related to their reliability and use. The industrial workers in the sample had responded to the offer of free or low-cost vasectomy operations after an intensive educational campaign and personal counselling by clinic staff members.

Many of the men indicated they were willing to participate in future counselling with persons who might also be interested in the vasectomy, or else they reported that they had already been engaged in influencing others to undergo this operation. Variables believed to have been influential in the subjects' decisions to undergo vasectomy were: low income and sole support of a unitary family, urban residence, a responsible attitude toward educational as well as physical needs of children, and a determination not to father any additional children which many believed might occur if they relied on contraceptives. Predominance of satisfaction with the vasectomy supported previous research.

THE KEY ROLE OF THE MALE METHODS OF BIRTH CONTROL

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During the years 1951 to 1963, India's population increased from 361 million to 461 million, an increase of 100 million. The birth control programme that was inaugurated in the early fifties has been spreading only slowly. Among the several reasons for the slow progress of family planning in India is the undue emphasis laid on the female methods of birth control, particularly in the initial years of the programme.

While contraception was taking root in any country, the male methods of contraception, despite their limited choice of coitus interruptus and condom, proved more popular and acceptable than the female methods. It is the purpose of this paper to present enough evidences to prove the above hypothesis and to point out how the family planning programme in India made the mistake of depending too much on the female methods of birth control. Statistical evidence from several countries are presented.

Great Britain

The Royal Commission on Population in Great Britain classified all methods of contraception into "appliance" methods and "non-appliance" methods. The non-appliance methods form virtually the male method of coitus interruptus, because we are told that "Non-appliance" methods were taken to include Coitus Interruptus (C.I.), abstinence and "safe period", but in fact the amount of reported use of abstinence and "safe period" was trivial, and *non-appliance methods may be taken throughout to refer to Coitus Interruptus* (Italics are mine).¹

The following table shows reliance on coitus interruptus as compared to all the other methods of contraception in Great Britain.

1. Lewis-Fanning, *Report on an Enquiry into Family Limitation and its Influence on Human Fertility during the last fifty years*, Papers of the Royal Commission, p. 8

TABLE 1

Percentage of Population practising Coitus Interruptus in Great Britain according to date of marriage

(All Social Classes)

Date of marriage	Coitus Interruptus		Other methods		Total	
	No.	%	No.	%	No.	%
Before 1910	21	87.5	3	12.5	24	100
1910-19	112	77.2	33	22.8	145	100
1920-24	137	68.4	62	31.6	199	100
1925-29	132	63.8	75	36.2	207	100
1930-34	147	52.7	132	47.3	279	100
1935-39	179	44.0	228	56.0	407	100
1940 +	234	43.7	302	56.3	536	100

Withdrawal was used by 88% of the couples married before 1910 and by 44% of the couples married after 1940. While the popularity of this method was falling for recent marriage cohorts, it does not disprove the fact that the method was of great significance when England was lowering her birth rate.

Among the "appliance methods", the sheath or condom has been treated as a distinct group by the Royal Commission from which the popularity of this method can be assessed. 39% to 48% of all exposures with appliance methods was for condom alone¹.

The Marriage Survey in Great Britain by the Population Investigation Committee of 1959 showed similar results². 93% (the total is 144 because several informants mentioned more than one method) were found to be practising male methods of contraception. Therefore, from these two studies it may be stated unequivocally that the male methods of birth control did predominate and still do predominate the contraceptive practices of the people of Great Britain.

France

In most of the other European countries also, male methods have been more popular ever since contraception has been practised. Coitus interruptus is often spoken of as the "French peasant's" method. "The fall in French birth rate which began in the 18th century, long before the modern improvements in contraceptives, is usually attributed to coi-

1. *Ibid.*, p. 134.

2. Rowntree, Griselda & Pierce, Rachel M., *Birth Control in Britain*, parts I & *Population Studies*, Vol. 15, Nos. 1 & 2.

tus interruptus'¹. Reference to condom as the "French letter" shows the popularity of this method in France.

Poland

An investigation among 246 medical practitioners in Poland in the thirties showed that 58.3% used the condom and 42.3% used coitus interruptus². The total percentage given is 135.0. Dr. Arcin Kacprzak, who made the study concludes, ".....Medical men use the same contraceptives as the whole population"³. On the popularity of condoms in Poland in recent years, Brackett and Huyck comments as follows:

"The consumption of condoms more than doubled in the years 1958-60; their availability was expanded considerably—about three million were to be imported early in 1960, and a new factory was to be opened in 1961"⁴.

Sweden

On the popularity of male methods of birth control in Sweden, Alva Myrdal writes: "Practically most of family limitation has been achieved by coitus interruptus, and when a technical device has been utilized it was the condom. Both place the chief responsibility on the man"⁵.

Austria

About the birth control practices of the people in Austria, Johann Ferch observed in the 1920's, "..... unfortunately the most commonly used (method) is the so called interrupted coition...."⁶.

Netherlands

Presenting the National Report on birth control in the Netherlands to the Proceedings of the Second Conference of the Region for Europe, Near East and Africa of the International Planned Parenthood Federation, T. Blankenstign-Biersona raised the question "whether we may regard the increasing preference for the use of condoms as a favourite symptom of"⁷.

1. Royal Commission on Population, 1949, *Report*, Her Majesty's Stationary Office, 1961, p. 37.

2. Kacprzak, Arcin, *Family Limitation in Poland*, *Population Journal of the International Union for the Scientific Investigation of Population Problems*, Vol. II, No. I, Nov. 1935, p. 33.

3. *Ibid*

4. Brackett, J. W. and Huyck, E. E., 'The Objectives of Government Policies on Fertility Control in Eastern Europe', *Population Studies*, Vol. 16, No. 2, Nov. 1962, p. 140.

5. Myrdal, Alva, *Nation and Family*, Harper & Brothers Publishers, New York 1941, p. 200.

6. Ferch, Johann, *Birth Control*, Williams & Norgate, London, 1926, p. 69.

7. Blankenstign-Biersona, *National Report on the Netherlands*, *Proceedings of the Second Conference of the Region for Europe, Near East and Africa*, International Planned Parenthood Federation, The Hague, p. 130.

Yugoslavia

On the birth control practices of the people in Yugoslavia, the following comment was heard at the same conference: "Seventy per cent of our women protected themselves from pregnancy by coitus interruptus, fifteen per cent by condom and generally the others did not protect themselves at all".

Czechoslovakia

A large scale study on family limitation conducted in Czechoslovakia in 1959 showed that 60% of the intellectuals, 72% of the industrial workers and 78% of the farmers depended on condom and coitus interruptus alone.²

Denmark

A study in Denmark between 1944 and 1947 found that 79% of those who practised birth control used coitus interruptus or and condom.³

Hungary

A Hungarian enquiry reveals that 79% of the women with contraceptive experience had used coitus interruptus and condom.⁴

Puerto Rico

Several studies in Puerto Rico have demonstrated the popularity of the male method of contraception. During the last decade, according to a survey, 100 per cent of the males and 84 per cent of the females reported that they knew condom as a contraceptive, while only 28% of the males and 46% of the females knew of diaphragm, 20% and 38% of jelly, 48% and 41% of douche⁵. E. Cofresí's study of birth control methods in Puerto Rico showed that condom was the most frequently used method accounting for 51% of all birth control practices.⁶ Beebe and Belaval found that 63% of the contraceptors depended on condom and withdrawal.⁷

1. Stankovsky, M. & Antonovsky, L., The Development of Contraception in the Peoples Republic of Macedonia Up to the Present, *Ibid*, p. 136

2. Glass, D. V., Family Limitation in Europe: A Survey of Recent Studies, Kiser, Clyde V., *Research in Family Planning*, Princeton, New Jersey, Princeton University Press, 1962, p. 257.

3. Glass, D. V., *Loc. Cit*, p. 253.

4. *Ibid*, p. 254

5. Stycos, Mayone J., *Family and Fertility in Puerto Rico*, Columbia University Press, New York, 1955, p. 186.

6. Cofresí, E., as quoted by Stycos, Mayone J., *Ibid*, p. 224.

7. Beebe, G. and Belaval, J., Fertility and Contraception in Puerto Rico, *Puerto Rico Journal of Public Health and Tropical Medicine*, Sept., 1942, p. 66.

U.S.A.

There are evidences which point to the conclusion that the male methods of contraception were popular in the U.S.A. in the early days of the practice of contraception. Since the people of the U.S.A. came from Europe mainly, it is inevitable that they took with them the birth control practices they were used to in Europe. There are also statistical evidences to show how popular the male methods of contraception were in the twenties and thirties.

On the popularity of the condom in the 1920's, James F. Cooper writes, "this device (rubber condom) is at present very popular in the United States, about 2,000,000 being used daily"¹. He also refers to the use of the "skin condom" made of "blind gut" of the sheep. Birth control practices of patients who visited "the oldest and largest contraceptive clinic in the United States", before receiving instruction from the clinic, were analysed by Stix and Notestein in 1932². 83% of the total exposure years were attributed to the male methods.

Hannah M. Stone reported after a study of 2000 cases from the Maternal Health Centre, Newark, N. J. that among her patients 30% used coitus interruptus and 23% condom, giving a total of 53% for the two male methods.³

Raymond Pearl's data from women in maternity hospitals showed that 46% of the contraceptors used male methods⁴, R. K. Stix found that 60% of her sample used male methods⁵, Rosishaw Ruth found it to be 42%, and Marie D. Kopp, 55%⁶. A Survey in Watanga County of North Carolina conducted between 1939 and 1941 reported that 83% of those practising contraception had used male methods.⁷

The Market Research Corporation of America conducted a nationwide study in 1938-39 among the "upper class married women in 30 cities" in the United States.⁸ Since the study was biased heavily in

1. Cooper, James F., *Techniques of Contraception*, Day-Nicholas Inc., Publishers, New York, 1928, p. 51.
2. Stix, R. K., and Notestein, Frank W., *Controlled Fertility, an Evaluation of Clinic Service*, The Williams & Wilkins Company, 1940.
3. Stone, Hannah M., *Maternal Health and Contraception: A Study of 2000 Patients from the Maternal Health Centre, Newark, N. J.*, *Medical Journal and Record*, Vol. 137, New York, April 19 & May 3, 1933.
4. Pearl, Raymond, *The Natural History of Population*, New York, 1939.
5. Stix, R. K., "Birth Control in a Midwestern City", *Milbank Memorial Fund Quarterly*, January, April & October, 1939.
6. *Human Fertility*, Clinic Reports, Vol. 7, No. 5, October 1942, p. 153.
7. *Human Fertility*, The Condom as a Contraceptive Method in Public Health Work, Vol. 9, December 1944, p. 101.
8. Riley, John Winchell, and White, Matilda, The Use of Various Methods of Contraception, *American Sociological Review*, Vol. 5, No. 6, Dec. 1940, p. 890.

favour of the well-to-do classes, the percentage of those using male methods was not found to be very high. The Indianapolis study of 1941-42 and the Scripps Foundation—University of Michigan Study of 1955 observed higher percentages for male methods than the 1938-39 study.¹

Japan

Information on methods of birth control in Japan are available from two sources: (1) Dr. Yoshio Koya's experimental projects; (2) The nation-wide Public Opinion Surveys in Japan.

In the Experiment conducted in "Three Typical Villages" of Japan, Dr. Koya found that in 1951, 33% used male methods of contraception. By 1957, this percentage rose to 46.² When the programme of family planning was introduced among the coal miners in Joban, Japan, 67% preferred male methods.³ In the Japanese National Railways, 40 to 50 per cent of the contraceptors preferred the two male methods and particularly the condom.⁴

The Public Opinion Surveys in Japan showed the following percentage use of the condom and coitus interruptus:

TABLE 2

Percentage of population using condom and coitus interruptus in Japan

Year	Percentage using male methods of contraception	Total
1950 First Survey	51.2	123.1
1952 Second Survey	66.7	143.7
1955 Third Survey	64.9	148.1
1957 Fourth Survey	63.3	150.1
1959 Fifth Survey	69.8	155.2
1961 Sixth Survey	46.6	100.0

(Source: The Population Problems Research Council, *Fifth Public Opinion Survey on Birth Control in Japan*, The Mainichi News-

1. Westoff, Charles F., Lee, F. H. and Whelpton, P. K., Social and Psychological Factors Affecting Fertility, *The Milbank Memorial Fund Quarterly*, XXXI, No. 3, July, 1953, pp. 291-357, and Freedman R., Whelpton, P. K., and Campbell, A. A., *Family Planning Sterility and Population Growth*, McGraw-Hill Book Company, Inc. New York, 1959.
2. Koya, Yoshio, *Pioneering in Family Planning*, Population Council, New York, 1963, p. 35.
3. *Ibid*, p. 47.
4. Koya, Yoshio, Family Planning Programme of the Japanese National Railways, *The Journal of Family Welfare*, Vol IX No 4, June, 1963, p. 29

papers, Tokyo, Japan and the Population Problems Research Council, *Sixth Opinion Survey on Family Planning and Birth Control, A Preliminary Report*, p. 26 and p. 29)

Therefore, for all the countries mentioned above, the male methods of birth control have played a crucial role in reducing birth rates and planning the family. Unfortunately, when the programme was introduced in India, the experience of these countries was not taken into consideration.

The slow progress of the family planning movement in India may be partly attributed to the undue emphasis given to the female methods of contraception. The bias for the female methods was quite evident right from the beginning of the movement. Abraham Stone was invited to India to initiate an experiment "with the rhythm method of birth control on the assumption that if this method were to prove successful on a large population basis it would represent a simple method for dealing with family planning in India. The Indian government is definitely for the moment unwilling to consider any other type of family planning in India"¹. Out of the 1083 couples of Ramanagaram, Mysore, of whom 811 (75%) were "willing to learn", 699 dropped out in the course of the experiment, and of the 112 who "learned" only 41 regularly practised it, i.e., only 5% of the "willing to learn" couples.² In Lodi colony, only 3% of the "willing to learn" practised it.³

The clinic approach is another evidence of the reliance placed on the female methods because the male methods need little or no expert advice. The number of clinics opened in the Five Year Plans were often considered synonymous with the progress of family planning in India.

When it was proved that the Rhythm method is not the answer to India's population problem, other methods—mostly female methods were tried. A note on the programme of work done in family planning in Andhra Pradesh says: "Foam tablets and other types of contraceptives are being issued through all the rural Family Planning Clinics in the State as per instructions given by the Government of India"⁴. Only Foam tablets deserved special mention in the above note.

1. Chisholm, Brock, Director-General WHO, as quoted by Stone, Abraham, "Fertility Problems in India", *Fertility and Sterility*, Vol 4, No. 3, May-June, 1953, p. 213.
2. Blacker, C. P., The Rhythm Method, Two Indian Experiments, Part I *The Eugenics Review*, XLVII, N.S. No. 2, July, 1955, pp. 93-106.
3. Blacker, C. P., The Rhythm Method, Two Indian Experiments, Part II *The Eugenics Review*, XLVII, No. 3, Oct. 1955, pp. 163-172.
4. Andhra Pradesh, Health, Housing and Municipal Administration dept. *A Comprehensive Note on the Progress of Work Done in Family Planning in Andhra Pradesh*, Hyderabad, Letter no. 1606 JJ/62-1. Health dated 9-4-1962, p. 1.

In the report on the advice given on various methods of contraception in Rajasthan in 24 "reporting centres" in 1958, 305 patients (12%) were advised male methods and 2152 (88%) were advised female methods.¹

The progress report of family planning in Mysore from 1957-1962 shows how in the initial years particularly, the emphasis was laid on female methods. Later the people must have shown their preference for the male methods.

TABLE 3²

Clinic Patients classified according to type of advice given in Mysore (1957-62)

Methods	1957-58		1958-59		1959-60		1960-61		1961-62	
	No.	%	No.	%	No.	%	No.	%	No.	%
Male methods	209	3.4	375	5.8	2010	14.0	6778	35.4	8864	34.2

The same stress on the female method is found in Maharashtra as well, as is seen below.

TABLE 4³

Number of persons given "actual advice" on Family Planning in Maharashtra (1957-June 1962)

Methods	Urban		Rural		Total	
	No.	%	No.	%	No.	%
Male methods (condom)	12,119	19.5	19,840	28.8	31,959	24.4

More than half those who were recommended female methods were prescribed foam tablets. 72% of patients in urban areas and 65% from rural areas were advised to use female methods.

1. Burdick E. Douglass, *India's Population Problem: A deterrent to India's progress*, (mimeograph) Appendix 10, p. 13, Health Division, U S. Technical Cooperation Mission to India, Sept., 1959.
2. Mysore, Director of Public Health, *A note on the Family Planning Programme in Mysore State*, letter No. HE/STN/2/62-63, dt. 11-4-62.
3. *The Journal of Family Welfare*, Notes, Abstracts & Reviews, Vol. 9, No. 1, Sept 1962 pp 51 & 52.

Of the 738 family planning cases "dealt with" by the Family Planning and Research Centre in Bombay from 26th June 1957 to the end of March 1958, only 6.5% were recommended the use of the condom.¹

After a survey of 53 family planning clinics in Greater Bombay in 1960, Dr. C. Chandrasekharan reports: "The method most often advised in the Bombay clinics was diaphragm and jelly. *In about half the clinics this was the only method that was offered. Even if other methods are available there was a tendency in clinics to prescribe the diaphragm and jelly method*"² (Italics mine).

Though statistical information on the various methods of contraception prescribed in other states are not available with me, there is no reason to believe that the male methods of contraception have been underlined in other states. It is quite unlikely that clinics set up mainly with the aim of propagating female methods of contraception would prescribe more of male methods.

Pilot studies conducted all over India to study the acceptability and effectiveness of the various methods of contraception made the same mistake of experimenting with female methods of birth control, at least in the initial years.

In Mysore, when the experiment with the Rhythm method from 1952-55 failed, foam tablets were introduced between 1956-60.³ It was only after 8 years of experimentation that it was decided to use "all methods".

In Punjab, the Khanna field studies introduced foam tablets in 1953.⁴ Out of the 80% who accepted it in the beginning, only 17% were using them at the end of 1960. "The results are not encouraging" concludes the study.⁵

In U.P., a Family Planning Research project was started in 26 villages. "Information on family planning methods in the initial stages was confined to the 'rhythm method'. After a year of this method. a simple contraceptive was introduced a rubber sponge of

1. Directorate General of Health Services, *Family Planning in India*, Ministry of Health, Govt. of India, New Delhi, p. 106.

2. Chandrasekharan C, Survey of Family Planning Clinics in Greater Bombay, *Journal of Family Welfare*, Vol. 9, No. 3, March 1963, p. 35.

3. Basavara], *A Brief Note on the Family Planning Training, Demonstration and Experimental Centre, Ramanagaram, Bangalore Dt*, Government of Mysore, p. 2.

4. Wyon, John B. and Gordon, John E., *A Long-term Prospective Type Field Study of Population Dynamics in the Punjab, India*, Kiser, Clyde V., *Research in Family Planning*, Loc. Cit., p. 17.

5. Wyon, John B & Gordon, John E., Loc. Cit., p. 29.

late, foam tablets have been introduced"¹. Of the 1453 married women who were advised to use the rhythm method, 4.2% were reported to have tried it and "..... none is reported practising it now"². The sponge method was accepted by 8% of the women.

When the Gokhale Institute of Politics and Economics started a three year project to study the efficiency of the several family planning methods in 1958, ".... the lady doctor at the clinic explained the rhythm method, the use of the foam tablets, the use of diaphragm and jelly and also the surgical operation of the male and female"³. Of the 175 who agreed to "pursue the subject" all but 18 stopped using them. It is reported that "we do not know for certain that all of the 18 women reportedly using the tablets do in fact use them"⁴.

When the Singur study of W. Bengal was undertaken, "the first method which was tested was rhythm, followed by coitus interruptus and foam tablets; the last being the condom...."⁵. It was soon found that the rhythm method did not work satisfactorily. Reports about the other methods are not available to me.

In Madras, an experiment was conducted in a village near Vellore. Only one method was tried, the female method of foam tablets. After two years of study they came to the conclusion that "this method is not proving to be acceptable"⁶.

The failure of some of the above experiments do not prove that family planning is not acceptable to the masses in India. What it proves is the method tried has been unacceptable. One wonders why the Family Planning Movement in India, in its initial years at least, failed to introduce the most "acceptable" method of birth control and went on experimenting with what the proponents of the movement thought to be the most "ideal" method of family limitation. Much valuable time has been lost and quite a few millions of population have been added to the already huge total of India's population.

1. Singh, Baljit, *Five Years of Family Planning in the Countryside*, J. K. Monograph. University of Allahabad, 1958, pp. 7 & 8.
2. *Ibid*, p. 62.
3. Dandekar, Kumudini, *Family Planning Studies*, Conducted by the Gokhale Institute of Politics and Economics, Poona, Kiser, Clyde V. *Research in Family Planning*, Loc. Cit., p. 10.
4. *Ibid*, p. 12.
5. Mathen, K. K., Preliminary Lessons learned from the Rural Population Control study of Singur, Kiser, Clyde V. Loc. Cit. p. 31.
6. Ponniah, S. and Others, A Report After Two Years' Work on a Rural Family Planning Project, *Journal of Family Welfare*, Vol. V, June, 1959, p. 20.

The greater appeal of the male methods and particularly the condom can be observed from the contraceptive practices of the "untutored" and "uninitiated" population of India as well as of those to whom it is recommended. The following instances are worth noting :

1. When in Ramanagram, Mysore, the Rhythm method and Foam tablets failed between 1953-60, it was "indicated that the rural population is extremely interested in adopting various methods and *particularly the condom*"¹ (Italics mine).

2. While the practicability of the Rhythm method was being experimented in Lodi colony "..... of the 231 Lodi women, among whom the twenty-seven regular users of the rhythm method are included, the other 204 adopted other measures or combinations of measures. Some of the 204 used other methods (mostly coitus interruptus and condom)"².

3. In the Public Opinion Survey in Calcutta, W. Bengal, of 1952-53, 93% knew about the two male methods, 91% about abstinence, while only 5% knew about the female methods.³

4. The inquiry of the Indian Statistical Institute in Calcutta on the prevalence of contraceptive practices in 1956-57 found 53% of the total exposure months in class I, 43% in class II and 34% in class III were from male methods.⁴

5. In the two surveys conducted in Poona, Maharashtra, out of a total of 117 practising contraception, 104 used "abstinence, coitus interruptus, and condom"⁵.

6. In Trivandrum, Kerala, 50% of the lowest income groups, 41% of the lower middle class, 41% of the upper middle class and 55% of the highest class used condom and coitus interruptus.⁶

7. From Gujarat, D. N. Dave reports, that the "acceptability is highest in the sheath"⁷, 63% of his sample were found using it.

1. Basavaraj, H. R., *Loc. Cit.* p. 2.

2. Blacker, C. P., *Loc. Cit.*, p. 165.

3. Mathen, K. K., Public Opinion Survey of Population Problem, *Indian Journal of Medical Research*, Vol. 42, No. 4, Oct. 1954, p. 624.

4. Poti, S. J. & Others, Kiser, Clyde V., *Loc. Cit.*, p. 59.

5. Dandekar, K., *Demographic Survey of Six Rural Communities*, Gokhale Institute of Politics and Economics, Poona, 1959, pp. 85-101 and Dandekar V. M. and Dandekar K., *Survey of Fertility and Mortality in Poona District*, Gokhale Institute of Politics and Economics, Poona, Publication No. 27, 1953, pp. 115-187.

6. Kerala Govt., The Demographic Research Centre, *Attitude to Family Planning*, Part I, Dept. of Statistics, Trivandrum, p. 84.

7. Dave, D. N., They Changed the Method for the Better, *Journal of Family Welfare*, Vol. 8, No. 4, p. 55

8. Another study in Poona conducted between 1959 and 1961 based on 800 case cards of clinics shows 60% preferred male methods.¹

9. Analysis of 5912 cases in Delhi showed that "condom and withdrawal were the methods most commonly practised".²

In the recent history of human fertility there are only three instances where fertility rates have been drastically affected within the period of a single decade. In two instances, in the U.S.S.R. and Germany in the thirties, there was a rise in the birth rate, since that was what the population policies of these governments sought to achieve. In the third case, that of Japan, there was a trend in the opposite direction and the fertility rate was cut by half. In all the above cases, the way in which it was achieved was through abortion—by decreasing the rate of abortion in the U.S.S.R. and Germany, and by increasing it in Japan.

Since abortion is culturally unacceptable to India, a rapid reduction in fertility can be achieved only by some other method which is sufficiently drastic. Sterilization may be the answer for India. However in the long run, sterilization is not practicable and it is necessary to crown condom the king of contraceptives in India and make coitus interruptus the queen, of course, not a king who merely reigns but one who really rules.

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2. Agarwala, S. N., Clinical Effectiveness of Contraceptive methods, *Journal of Family Welfare*, March, 1960.

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PSYCHOLOGICAL DIFFICULTIES IN SEXUAL RELATIONSHIPS*

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Obviously, the material that from a treatise point of view could be dealt with under this heading is enormous. I have to be excused for not even making an attempt at covering it all but restricting my commission to giving some rather scattered suggestions for further discussion at the conference.

Scrutinising this title of our subject I find, to begin with, that it might give rise to some confusion as to what exactly it is aiming at for our consideration. Should we discuss *psychological* difficulties arising in connection with or caused by sexual relationships, leaving these relationships per se more or less undisturbed? Or should we rather refer the word "difficulties" to the sexual aspect itself and talk about psychological phenomena supposedly causing them? I assume that the last interpretation is more closely in line with the intentions of the program committee.

But this indistinctiveness of formulation implies another quite interesting problem, namely this one: Provided a given sexual relationship is experienced by the partners as an unquestionably satisfactory one, are then "psychological difficulties" in this relationship, taken in a more general sense, really conceivable? This is a controversial question the answer of which largely depends on how we define "psychological difficulties," allegedly a somewhat nebulous concept. Some authors claim that "a good sex life does not assure a happy marriage", and this may be true in so far that many extra-relationship factors may disturb a marriage, but according to my personal and clinical experience it seems safe to state that a good sex life is the best yard-stick that we have in trying to estimate the overall quality of any intimate relationship between man and woman.

Another way of phrasing this impression would be to say that sex seems to be a kind of crucial and determinating human task which, according to some not too clearly formulated laws, does not allow for any kind of cheating without a prize having to be paid in terms of

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psychological disharmony. A third way would be to say that one's capacity to solve his sexual task and his psychological experience of so-called happiness are inextricably interwoven aspects of every individual's life, and the determination of cause and effect in this pattern is extremely complicated.

I shall make one other point to delineate the scope of our subject. When the title speaks of "difficulties" rather than "disturbances" or even "abnormalities" I assume that here we are supposed to discuss some psychological sources of *sexual dissatisfaction* in so-called *normal people*. This is what I propose to do because I see no point in this connection to take up various psychologically determined sexual aberrations, such as for instance the perversions, the less so since these are the subject of another study group at this conference.

However, in speaking of sexual difficulties of so-called normal people we are confronted with an extremely hard problem, namely that of normality. The difficulties of defining the norm are obvious already in general psychopathology of which the frequently-voiced although somewhat glib statement that all people are more or less neurotic may bear testimony, but these difficulties take really enormous proportions when it comes to sexual experience and behaviour, the inexhaustible variety of which is a commonplace. Still we cannot escape the problem of normality in this connection, firstly because it has, of course, very much to do with our subject as defined above and secondly it is of the highest significance for educators who, in their teaching, inevitably harbour some more or less conscious image of normality in their minds. However, as far as I myself am concerned, I shall make it somewhat easier for myself by avoiding too much talk about what is normal. Instead I shall try to deal with some rather arbitrarily chosen sexual phenomena which from different points of view are *assumed* or *claimed* to be normal and then just touch upon some implications and consequences that this might have.

It goes without saying that concepts of sexual normality in terms of ordinary peoples' ideas about what is essential and proper in sex life may have a considerable influence on their actual sexual experience whenever it comes from sounds to things. Since one of our programatically formulated aims is to stimulate research in sex education, we in the IPPF may regard ourselves as educators in this field, and it seems appropriate for us to consider, in the first place, the background upon which our own concepts of sexual normality may be formulated.

I would suggest that this background could be broadly divided into four separate and methodologically rather different fields of human thinking, which I propose to label the biological, the psychological, the anthropological and the social or ethical aspects respectively. The demarcation between these different fields is not always a sharp one, and this is particularly true with regard to the anthropological aspect, somewhat floatingly interposed as it is between the psychological and the socio-ethical ones. Nevertheless, I believe it to be important for the cause of discussion trying to keep them apart at the start and to consider, however briefly, what kind of influence each of them may have on our image of sexual normality. Needless to say, it is not necessary for us to have studied in any systematic way any or all of these subjects in order to be influenced by them. What I am trying to envisage here, and I know this is no easy task, is some rather general contemporary ideas about sexuality, ideas which I think have some relevance for modern western thinking.

The *biological* viewpoint of human sexuality is the one most generally taught and most strongly emphasised in what is usually and, in my opinion, erroneously called sex education. This is "teaching the facts of life", a frequently used formulation which, in fact, implies a considerable overstatement. One of the consequences of this is that the words "biological" and "normal" very frequently are treated as synonyms in ordinary thinking. One of the most conspicuous characteristics of this viewpoint is the tendency to draw more or less far-reaching parallels between animal and human sex life, sometimes to the extreme of designating any sexual behaviour in man as "natural" or "normal" whenever a similar behaviour has been observed in animals. The most important, well-known and respectable documents on what I mean by this biological aspect at large are the famous books by Kinsey and collaborators on the sexual behaviour of the human male and female. It has been said that no contemporary scientific works have been so widely discussed and so little read as these Kinsey "reports". Be this as it may, their importance for our general outlook on human sexuality should not be disregarded, but neither should the typical public reaction of relieved recognition on a more or less close acquaintance with Kinsey's sexual world obscure the fact that it provides a limited view of the scenery.

The *psychological* viewpoint of sexuality is of outstanding importance in so far that it has, more than any other aspect of the matter, brought about a modification of the so-called sexual taboo. It has paved the way for making a systematic study of human sexuality, such as

for instance Kinsey's, at all possible. Based mainly on psychoanalytic findings it has made history in western thinking by broadening the whole concept of sexuality, by discovering and exposing its manifestations in the child, by emphasizing the vast influence of so-called libidinal drives on human development and endeavour, and by making these ideas to a large extent part and parcel of everybody's thinking and orientation towards life. Thus, a psychologically-inspired concept of sexual normality has entered our minds, different in many respects from the biological one, at any case more complicated, frequently provoking and sometimes even threatening. It has often been asserted that the psychoanalytically oriented image of sexual normality falls short of its requirements by being a psychology essentially by and for men, and I shall return to this point later. Whatever justification can be given to this statement, the infiltration of psychoanalytic thinking has certainly mobilized to conscious elaboration certain tensions between the sexes previously confined to obscurity. By and large, the main contribution of psychology and particularly of psychoanalysis from the sex education point of view is that sexual matters are being intensely ventilated within large strata of our population. The educational value of a free debate in this sense is questionable or at least intricate, because indiscriminately ejected concepts of so-called deep psychology are too frequently turned into misconceptions as is amply proved by solid experience.

The *anthropological* point of view is the one that perhaps most violently has shattered any preconceived notion of so-called normal sexual behaviour in man. Based as it is on observation of all human races and even tribes, it has exposed the whole immense variability of such behaviour. As in other fields of description the observations are the facts of the matter, they are "objective". The interpretations of these observations, however, are less so. Anthropological facts have frequently been called upon to support or disprove customs or prejudices prevailing in western civilization. Thus, some fifty years ago it was claimed that anthropology "proved" the essentially monogamous nature of man, and more recently the same source of knowledge was said to have disposed of all notions of the intrinsic nature of masculinity and femininity, widely held in our culture, such features being claimed to be entirely man-made. One should probably be suspicious about trying to understand human sexual behaviour on the basis of such allegedly "scientific" postulations.

The *ethical* point of view is close to the psychological but still more so to the anthropological one. This could be earmarked by call-

ing it the socio-ethical point of view. It differs conspicuously from the previous ones by having no claims of being "scientific". Nevertheless, it is the oldest and conceptually most infiltrating regulator of sexual behaviour in any known cultural group, and its normative importance needs no particular elaboration. Therefore, it is absolutely indispensable for any comprehensive view of human sexuality, already from a purely phenomenological standpoint. The ruling concept of ethics is "value" and in this particular context it is "love" between man and woman, which could be defined as sexuality with a more or less elaborated ethical superstructure, the nature of which we may leave aside for the moment, except to state that it seems to be exclusively human. This preoccupation with value, by definition one would say, has made ethics somehow less respectable in contemporary civilization, so proud of its "scientific" achievements. Nevertheless, granted that the concept of love cannot be stripped of its ethical aspects and using this concept as the appropriate prerequisite for giving the human sexual task a flavour of psychological adaptiveness, i.e. happiness, and, finally, considering the universal human demand for "love", substantially displayed by psychological-scientific discoveries, it seems reasonable to reintroduce values as highly important building-blocks in the complex structure of human sexuality. This could be made without too much offence to a scientific outlook in so far that even values can be fairly objectively treated as phenomena in terms of cause and effect.

Stressing this point so hard may seem like breaking open doors, but I do it in the firm belief that it is badly neglected in what is usually called sex education, in which a systematic exposition of the phenomenon of love rarely, if ever, appears, with probable consequences of any incomplete information, i.e. unpreparedness for meeting reality.

It is exactly in the realm of normality concepts that the introduction of values creates great confusion in a scientifically-minded world, because the norm of science is the average, i.e. a statistical phenomenon, whereas the norm of values or ethics is "the good" or "the best", i.e. perfection, an experiential, subjective, but nevertheless very "real" phenomenon. Provided ethics is given any place at all in trying to understand and form human sexual behaviour, it seems to be the inevitable task of every educator in this field, whether in a professional or a parental capacity, to do justice to and somehow to integrate these different aspects of "normality", a thorny task as this may be. It is my impression that in the prevailing philosophy of sex education there is an attitude of silent warfare against ethical aspects in general. This, of course, could easily be traced to the undisputable connexions

between these aspects and the so-called sexual taboo. However, this attitude, frequently blessed by the holy pretensions of being "scientific", may become as indoctrinate and stalemate as any ethical system if, as is actually the fact, it disregards important factual aspects of the subject taught.

The subject of so-called romantic love, perpetually returning in various expressions and interpretations through the ages, to take just one of many examples in point, bears ample evidence of the extent to which ideas of perfection in sexual relationships are operating in human minds. I am not going to speak for the benefit of this phenomenon as such, particularly not in some of its modern manifestations when, supported by mass-media of communication and advertising, it appears in various more or less undisguised sexual forms of glamour-worship. But I mention it here just to stress my point of the ubiquitous striving for perfection. The psychological difference between the mediaeval troubadour and the modern "road-devil" is less than one would think. In this sense even glamour-worship is pure ethics, although many of us may consider it wayward ethics.

In my opinion, romantic love in its various modern manifestations, i.e. unrealistic, uneducated, helplessly groping strivings for perfection, is one of the most important sources of psychological difficulties in sexual relationships. The educational means for channelling such human strivings, so impossible to reach for any "scientific" system, remain to be found.

Before trying to give some background for this, however, it may be wise to state what kind of difficulties we are talking about. I shall formulate this very broadly and, mindful of the introductory remarks that we are probably supposed to talk about sexual rather than psychological difficulties, describe them as the subjective experience of sexual dissatisfaction in "normal" men and women, whether or not this dissatisfaction is accompanied by technical impotence in the man or orgasmic impotence in the woman. This formulation pays due consideration to the frequent reports of the feeling of "lacking fulfilment" in spite of a technically satisfactory coitus. It also implies the fact that various potency disturbances, in man or in woman, are so common, that such sexual difficulties, from a scientific-statistic point of view, cannot be considered abnormal, which of course they always and undisputably are from the ethical point of view of perfection.

It is surprising or even shocking how rarely one encounters a case of a mutually satisfactory sexual relationship between man and woman

which endures the relevant issues of probation, namely the lapse of time and a careful and thorough investigation into the very personal aspirations of each partner. This impression cannot be dissipated by the objection that professional psychologists or confidants see only more or less disturbed people, nor by any other variety of the proverbial statement that "health keeps silent". Because from experience it could just as well be argued that these very types of sexual dissatisfaction are especially apt to keep silent for the simple reason that psychological mechanisms of defence bar them from even introspective revelation, letting them out only in the form of more or less ingenious rationalisations, such as chronic fatigue, "stress" or some form of minor physical ailment. Furthermore, it requires only a moderate sensitivity for what could be called the atmosphere of the time as encountered in ordinary everyday communication with people, in literature and the arts, in the more or less "psychological" inventions by which radio, television, cinemas and advertisements try to catch people's attention, in order to be impressed by the race for romantic love going on everywhere around us. The discrepancy between the needs as measured by the efforts to satisfy them, discernible in listening to this contemporary orchestra of human voices, and the apparently poor results in terms of a stable and solid sexual satisfaction is striking.

For me, trying to make a complete analysis of this situation would be presumptuous indeed. But a couple of things could be mentioned whose relation to it seems reasonably clear. The first one of these is what above was called the modification of the sexual taboo, brought about mainly by modern psychology and by psychoanalysis in particular. By "sexual taboo" in this context I do not refer to the original meaning of it which was synonymous with the incestuous taboo, but to the somewhat loose usage of this expression to denote various prejudices in sexual matters of a conventional or neurotic nature.

At this point it could be objected that psychoanalysis, after all, is a pretty esoteric discipline, and what evidence could be called upon to support the idea of its substantial impact on ordinary thinking. To answer this I would again point to the products of literature and the stage. The better part of modern novels seem to take it as a token of respectability or purchasability, or both, to be imbibed by a more or less sophisticated psychoanalytic psychology and the same is true for the products of the stage with no exception for the cinema, whose opinionative power is allegedly considerable. I remember one French picture entitled "The Friends" and recently shown all over Europe which presented such an exquisitely sophisticated narrative of a latent

homosexual relationship between two men that any psychoanalyst would be glad to use it for didactic purposes. Of course the word "homosexual" was never mentioned, and in order to verbalize the psychosexual background which was the essential message of this study of human psychology, a certain knowledge is needed, but for an emotional impact to take place, no verbalization is necessary. The play was a public success, and this is by no means an exception for these rapidly expanding, skilfully constructed kind of "psychological thrillers". People love them, and this is remarkable. One wonders what happens in the minds of those who do not formulate, i.e. the majority of ordinary cinema-visitors. What I intend to point out is only the fact that western population is continually exposed, on screen and stage, to a vast panorama of skilfully displayed psychosexual intricacies of a highly exciting nature and I would venture the assumption that a great majority of people are unsufficiently prepared for this kind of experience. However, to what effect this may lead in the long run I think nobody has a full answer. More systematic investigations into the psycho-social effects of mass-media are badly needed. One reasonable guess would be that they stimulate a free discussion, for good and for evil, perhaps mostly for good though. The possible bad effects of this newly-acquired freedom is to stimulate an indiscriminate and uneducated demand for various sexual experiences in the tacit belief that they provide a magic key to wholesale "happiness". This was indeed the case after the first world war in many so-called educated groups of western society in which psychoanalytic theories were misinterpreted as a gospel for the free "acting out" of sexual drives. This era seems to have passed away but it has some historical and theoretical interest as a saturnalian attempt at a radical destruction of the sexual taboo which of course was deemed a failure.

Incidentally, it is interesting to note, after forty years of comparatively free discussion of sexual matters, how little this seems to have contributed to the alleviation of basic sexual fear and anxiety. For people versed in dynamic psychology this is of course no surprise, because they know that these fears as well as the defences against them are mainly unconscious and therefore inaccessible to a direct approach. Important and well-founded as this insight is, it has not penetrated too far into the minds of many sex educators who wishfully insist on believing that a matter of fact instruction will prove helpful also for psychologically determined sexual difficulties.

A case in point was one of my patients, a very attractive full-trained psychologist in her late twenties with no other demonstrable

psychopathology than certain difficulties in her contacts with the opposite sex. This admittedly somewhat narcissistic girl had emerged from her professional training and a appropriate background of social relationships with a knowledge of sexual matters barely corresponding to that of a ten-year-old. Still, I would hesitate to label her a severe case as psychotherapeutic interviews were sufficient to provide excellent help for her original complaint. What happens in such frequently reported and repeated "cures" of sexual inhibition is that permission to be grown up is finally achieved from a symbolic parental figure.

Returning now to the apparent difficulties for contemporary mankind to obtain the experience of sexual satisfaction, another question appears with regard to the comparatively free ventilation of sexual matters. Is not the impression of a general sexual dissatisfaction as a conspicuous characteristic of our time an illusion, created by the very fact that we are for the first time able to speak about it? Are we not witnessing a large-scale proof of the psychodynamic and, I would say, ethical insight that discussion and an open-minded approach is not enough, although it is an indispensable step in the right direction? In my opinion this is so to a large extent, even if it is not a full explanation. One of the most important psycho-social phenomena with regard to this is the contemporary emancipation of the woman, which in this particular context means the emergence of woman as a specific sexual being.

It is astonishing how slowly and incompletely a recognition of essential feminine sexuality gains ground in our society. The emancipation of the woman seems to have converted into so-called psychosomatic diseases what some eighty years ago was recognized as "a sexual disease", namely hysteria. This causes the greatest confusion and bewilderment in general medicine. There, however, we slip into pathology which we should try to avoid.

I mentioned above that psychoanalysis whose leading position in the field of modern sexual psychology is undisputed, has been criticized for being essentially masculine; from a historical and psycho-social point of view a fulfilment of age-old patriarchal traditions. True, in many respects it did present woman as a kind of mutilated man with little but negative aspects deserving to be designated essentially feminine. The reduction of the psychology behind female reproductive functions to a fulfilment of the unconscious wish to incorporate and retain the male penis may seem absurd indeed, were it not for the fact that the whole concept of penis envy with its derivatives has proved extremely fruitful for our understanding of human psychology in

general. There is, however, a deceptive element to such lucky strikes of intuition, endowing the discipline that bore them out with a state of undisputable authority which may hamper progressive criticism of its inconsistencies. If such a situation has existed with regard to psychoanalytic concepts of sexuality, the last decades have brought a change, particularly through the outstanding contributions of several woman analysts.

Psychoanalysis was born and developed at a time when it was considered "normal" for women to feel a slight and "decent" disgust at the deplorable laws of nature which included sexual intercourse in its machinery. Then things changed and, along with sexuality becoming a subject of intense and legitimate exploration, the right of women to have sexual feelings similar to those of men was acknowledged. It was discovered that woman's experience of sexual intercourse was an unexpectedly complicated one, and concepts such as clitoral and vaginal orgasm, among others, were created to account for this fact. From a psychoanalytic point of view the former type of orgasm in a grown up woman was considered "abnormal", the latter "normal" to the extent of becoming a fundamental criterion of feminine maturity. Accordingly, the woman's incapacity of achieving any kind of orgasmic experience in coitus, so-called frigidity, wide-spread as it seemed to be, was considered grossly "abnormal". Gradually, the situation fifty years ago became completely reversed, and now it is as disastrous to the self-respect of woman to be considered "frigid" as it has always been to man to be sexually impotent.

I make this distinction of formulation, "to be considered" frigid for women and "to be" sexually impotent for men, on purpose, because the latter calamity is so much more simple and obvious in an objective sense. About male impotence there can be no doubt, about female "frigidity" however, very much so. In fact, lately we seem to stand before another reorganisation of our outlook in this field again. Further explorations into feminine sexuality revealed that the supposedly normal vaginal orgasm happens to be surprisingly rare and is overwhelmingly outnumbered, among so-called normal people, by various degrees of "frigidity" with various ingredients of clitoral orgasmic experiences. Still, the impression remains of the so-called vaginal orgasm as a qualitative ideal for the feminine climax. Some experts now feel that there is more sense in posing the question how some few women have managed to reach this precious experience than to continue breaking our heads in trying to find out why the vast majority of women have not. As I believe this question to be of considerable importance to the

entire psychosexual situation of our time, especially in terms of disturbed relationships between man and woman, I intend to deal with it in some detail here.

To begin with Kinsey, he seems to dispute the importance of so called vaginal orgasm altogether, in fact, denying its existence. This he does mainly with reference to the fact that the vagina is devoid of tactile and organs for transmitting specific sensations from its walls. Incidentally, this is, in my opinion, one good example of an impermissibly crude "scientific" proposition with regard to a highly complicated psychosomatic process. As if he had some notion of this himself, Kinsey asserts, however, that "many females, and perhaps a majority of them, find that when coitus involves deep vaginal penetrations, they secure a type of satisfaction which differs from that provided by the labia or clitoris alone". He does not say what every confidant in sexual matters knows, namely that this satisfaction is invariably described not only as different but as superior as well, which is of some relevance whenever sexual satisfaction is at stake. Instead he goes on to enumerate six "sources of the satisfactions obtainable from deep vaginal penetrations" which I do not need to repeat here. But we may gratefully note that "six sources" seem more than enough as a contribution from the biological side. What I am trying to show is that Kinsey's authority leaves us entirely in the dark as far as this problem is concerned. But I fully agree with him in his disapproval of marriage counsellors and sex educators who in a more or less direct and explanatory fashion teach their clients "to exchange their clitoral response for a vaginal one", not, however, because of the "biological impossibility" of such a transfer but because it cannot be acquired by conscious effort.

Now, modern biology and psychology strongly emphasize that the instinctual sounding-board of feminine sexuality is much richer and much more complicated than the masculine one. The former includes the functions of pregnancy and lactation and these are not "genital" in the same sense as is coital behaviour. Thus, the female body is endowed with specific organs not only for genital functions but also for those of pregnancy and lactation, and with our present views on psychosomatic interplay we have no reason to believe these organs to be "silent", whether they be actually used for their purpose or not, at any time or phase of woman's psychosexual life. The question arises if and how the specific structure of the female body contributes to the feminine experience of sexual satisfaction in the essentially genital process which is coital orgasm.

Embarrassingly elementary as this question may seem, the prerequisite for its being seriously posed appears to have been contemporary feminine emancipation of which the recognition of woman's sexual needs is only a section. In trying to answer it we have to rid ourselves of any "patriarchal" prejudices with regard to coital behaviour and this seems to be quite an ordeal, judging, among other things, from the highly divergent facts available on coitus in the literature. I have already mentioned that Kinsey considers the clitoris and the external parts of the genital organs to be the essential mediators of orgasmic experience in the woman, whereas the psychoanalysts relegate these functions to the vagina. Another controversial matter is the "normal" duration of coitus. One author states that the man should be able to perform as many movements after insertion as he counts years of age, Kinsey obtains an average of some two minutes among a large sample of interviewed persons and a third author claims that a quarter of an hour is "a poor average" if a man has any ambitions of meeting the requirements of his woman.

Such divergence of opinion concerning particulars of the coital procedure are abundant in current literature, and this seems remarkable indeed, considering the fact that we are dealing with a most basic kind of human relationship of which most of us have a more or less long-lasting and intense personal experience. It reflects, I think, the prevalence of some notable insecurity and confusion with regard to the correct interpretation of one of the most vital aspects of human conduct. How we are to account for this I cannot tell except by referring to the already-mentioned difficulties in ascertaining "the norm" in sexual matters. But one other suggestion could be made with special reference to the fact that we are only in the beginning of a systematic study of human sexuality, especially of feminine sexuality. It seems possible that some of the apparent contradictions in this field are simply reflections of various admixtures of the specific feminine viewpoint, which is the most recent and certainly the most important contribution to contemporary conceptions of human sexuality. In fact, recent biopsychological discoveries seem to give some justification to the view of the woman being the psychosexual expert of our age. The men, being the disenthroned monopolizers of sexual enjoyment, follow this lead reluctantly, and this, I think, is an important cause of "psychological difficulties", the at last overtly sexual version of the age-old "battle between the sexes".

The discoveries referred to above include careful investigations of the physiological behaviour of the vagina in coitus investigations which

for obvious reasons are difficult to get made and difficult to publish. They seem to indicate that, from the feminine point of view, for an optimal coitus to take place, an element of fusion with the penis is essential, which is physiologically reflected in the behaviour of the vagina in a way that could not be reproduced by any kind of clitoral orgasm and which, furthermore, has unconscious associative connections with extracoital reproductive functions of the woman, embracing, as it were, her whole body and existence. This experience requires a comparatively long duration of the coital act which would make a man suffering from premature ejaculation incapable of triggering it. I would stress this point specifically because, clinically, premature ejaculation is, together with "frigidity", by far the most common disturbance complained of by couples with sexual troubles. With our present understanding of coital physiology it must be extremely hard, if at all possible in many cases, to distinguish between these two complaints. In other words, we do not know "who to blame" or rather, we have the suspicion that the woman has unjustly been blamed in a good many cases, which from another angle illuminates the inadequacy of the concept of frigidity. That this, when the woman's sexual awareness and self-confidence increases, is going to bring certain tensions between the sexes to a more overt expression is not surprising.

In my opinion these considerations shed some light upon the frequently observed fact that, in our society, couples in their forties go through a more or less severe crisis in their relationship. Most observers, including Kinsey, note that women at this age, when their other procreative functions are declining, seem to reach the peak of their capacity for coital pleasure. This is putting an extra demand in terms of sexual activity on the man, and he, more often than not, seems reluctant to meet it. According to Kinsey, the explanation for this is that his curve of development with regard to coital pleasure is an opposite one, having its peak in the late teens. I think there might be more to say about this, and considering what was just mentioned about the optimal coitus in women as representing a kind of condensation in one single act of all her reproductive functions, it seems possible that, when approaching infertility prevents her from acting out in reality her extracoital procreative functions, she is, as it were, concentrating her needs in this respect on the coital act. Furthermore, recent views on feminine sexuality have entirely disposed of the idea that this comes to a close with the menopause. Therefore, with regard to woman's relationship to coitus, there may be a considerable justification to the saying that "life begins at forty", the more so since, in our society,

there is as much left of her expected life-span as has been covered at this age, which is another important novelty of our total present situation.

By this I do not intend to say, of course, that a middle-aged couple, for the sake of sexual adjustment, would be expected to increase their coital activity in any *quantitative* sense, but I do believe that this is one of several points in life where most married couples and, through their educational functions as parents, their children, are keenly confronted with qualitative aspects of psychosexuality, i.e. love. As far as the children are concerned, experience seems to prove that by far the most important single factor of sexual education is not any kind of verbal instruction or teaching but the example provided by the overall conduct of the parents.

There we have arrived at the realm of values again and I shall devote the last part of my communication to some reflections on the relationship between sexuality and values in terms of "love", "happiness" and "perfection", so essential in any description of the psychological experience of satisfaction and fulfilment.

It has rightly been asserted that any system of thinking, even the most "scientific" one, whether this be openly admitted or not, has its metaphysical superstructure, its element of faith, its utopia, as it were. Taking psychoanalysis as the leading science of psychosexuality it has, furthermore, been said that its particular utopia is "genitality" by which is meant the reconciliation firstly of genital orgasm and extra-genital sexual needs, secondly of love and sexuality and, thirdly, of sexual, procreative and work-productive patterns. To achieve all this to its fullest extent is no easy task and remains an unobtainable ideal. We can only strive to reach this ideal along a road replete with values. Above, I have deliberately kept talking of a modification rather than a dissipation of the sexual taboo, because what happens is not a disappearance of prejudices but rather an exchange of some prejudices for others, which of course does not mean that some prejudices may not be more consistent with existing facts and contemporary scientific findings than others.

If we consider the psychosexual concept of love, arrived at by an integration of physiological events during an optimal coitus as indicated above on the one hand and what we know from the investigations of deep psychology on the other, a common denominator of the various physiological and psychological ingredients of this concept is the apparent striving for a fusion, eventually leading to the experience of at

least a momentary unification with the love object. In other words, there seems to be a close agreement, in essence, between the physiological behaviour of "organs in love" and all "spiritual" descriptions, poetic or religious, of any kind of human bliss or ecstasy. The unifying element in all this is the subjects merging with someone or something and, together with this, some kind of a change of his state of consciousness. Thus, the resemblance between what appears to be the psychoanalytic notion of orgasmic fulfilment of "mature genitality" and, for instance, the descriptions by the great mystics of their ecstatic experiences is striking indeed. This was, at least to me, when I first came to think of it, a surprise because, considering the notorious aloofness of psychoanalysis with regard to religious experience, one does not expect to find this agreement on the nature of enraptured feelings. Interesting in this connection is the early psychoanalytic idea, still held by some of its adherents, that "a fleeting loss of consciousness" during sexual orgasm is an indispensable criterion of complete sexual potency and, therefore, of "normality".

My point is that the behaviouristic net-work of roads employed in the strivings for human happiness, manifold beyond a comprehensive survey as it is, seems to converge to describable units of experience if, and only if, we introduce the concept of values. The plustitudinous nature of this statement is to some extent dissolved if we consider that the loosening grip of essential religious values on western civilization makes people turn to other aspects of "love" for gratification. Thus "love" between man and woman is carrying a much heavier load than ever as an expected source of human "happiness", and more or less superstitious short-cuts of crudely behaviouristic sexuality are almost invariably tried, with disappointment as an inevitable result.

The disappearance of the big family is another factor that places the internal relationship between man and woman in focus. The two are, as it were, left to each other to build their life. The increasing awareness of the crucial psychological importance of the quality of their mutual relationship for the future of their comparatively few children does not make this task easier. Thus, the task of achieving the experience of fulfilment along the psychosexual road, left open when the channels of religion and the concrete duties of the big family are more or less obstructed, is an exacting one, and in this situation the emancipated woman keeps the position of a natural arbitrator on the strength of her biopsychological closeness to sexual and procreative functions. Incidentally, it has been asserted from the anthropological side

that a broad biological survey exposes coition as an essentially cruel or even sadistic act with no relations at all to feelings of tenderness and love, these feelings being exclusively related to the specific female functions of procreation. If this is so, the feminine capacity of incorporating these functions, at a psychological level, in the coital act would be the chief operator in transforming this act into an experience of "love".

What seems to be badly needed in this general situation is a systematic investigation of the phenomenon of human "love", where the psychosomatic and ethical aspects of the matter are impartially considered and then more closely integrated than has so far been the case. The shortcomings of the contemporary science of human behaviour in this respect may have been one incentive for the emergence of certain European schools of psychology and psychotherapy, such as for instance, the so-called existentialism. Still respectable treatises on "the psychology of love" are scarce. Careful investigations of this kind would provide the only appropriate basis for sexual education and would make a most necessary complement to Kinsey's work.

At this point I would like to close my contribution with a strong recommendation to make a very definite distinction between sex instruction and sex education, suggested by various authors. What we in the IPPF usually refer to as "sex education" is, in fact, "sex instruction", i.e. giving the mere facts of sexuality as a biological function, whereas the essential purpose of sex education would be the teaching of how to integrate these facts with our psychosocial situation as a whole. Contemporary tensions seem, more than ever before, concentrated around experiential contrasts such as biosexual functions—civilization, feeling—intellectual technology, spontaneity—planning, ecstasy—total consciousness, and the great problem of overpopulation is by no means the only one confronting us with the inadequacies of "biological man" in his attempts at meeting the requirements of our time.

WORLD POPULATION AND TURKISH POPULATION PROBLEMS*

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There is little doubt that in the year 2000, historians looking back over the past few centuries will see world population growth as one of the most dramatic changes in the history of man. It took mankind many thousands of years to achieve its level of population in 1650. But in a mere two centuries, between 1650 and 1850, world population doubled. This was a rapid rate of increase indeed, but it was slow compared to the next period, between 1850 and 1950, when the population doubled again, this time within *one* century. Astonishing as was this rate of population growth, we now are quite certain that world population will double again in the next 50 years. In a period when world population is growing faster than at any major period in history, Turkey's rate of population increase exceeds the world average. Indeed, if current rates continue, the population of Turkey will not have to wait until the end of the century to double—it will double in only 23 years.

What has happened to produce this remarkable growth of world population, and what are its consequences? Part of the answer is fairly simple: before the invention and dissemination of today's medical marvels, nature usually effected a delicate balance between births and deaths. Because many died, many had to be born in order for a people to exist and grow. When modern health measures were not available, every year for every 1000 people, perhaps 35 to 40 persons died. In such a situation 45-50 had to be born to ensure survival of the society. The high birth and high death rates thus resulted in a successful, though costly, balance—costly because of the *waste* of human life.

But revolutions in medicine upset the balance. Better sanitation, improved preventive and curative medicine, improved water and food supplies, etc., all contributed to remarkably rapid declines in rates of death; so that only 10-20 persons per thousand died compared with 30-40 before. Thus it was no longer necessary to have such high

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birth rates, and one would "logically" expect them to decline. But the customs and the practices which are developed over the centuries to guarantee high fertility do not change so rapidly. They involve customs of early marriage, religious and social pressures on the female to "increase and multiply", and moral opposition to the regulation of births. In Europe, North America and parts of Asia, the birth rates came down eventually, but they took a long time to do so. In some countries it took over a century and a half before birth rates declined to a level not greatly in excess of death rates.

In Europe, the huge excess of population which resulted from the declining death rates formed new homes in other continents—in North and South America. Needless to say, the world no longer has attractive areas for colonization—we can look only to the stars.

Moreover, the declines in deaths were relatively gradual, because health improvements were developed and introduced only gradually. Today, on the other hand, any country with interest in health can do in 10 years what it took most European countries 50-100 years to do in the reduction of mortality.

But there is little reason to believe that birth rates will decline any faster than they did in Europe; indeed they may decline even slower because of earlier marriage and deep-seated customs concerning family life—unless something is done about them on a scale that parallels the efforts to save lives.

There are two basic questions with respect to a national population policy: what is the optimum population size for a particular nation at some present or future point in time, and what is the optimum *rate* of growth for a nation at a particular time. Both questions involve political, economic and moral issues. For example, a nation must decide whether it favours wealth in terms of sheer numbers or wealth per person. India and China are wealthy in the former sense, Switzerland and Belgium in the latter. But regardless of what numbers a nation wants "eventually" it must consider the rate of growth by which it achieves this optimum population. Since this aspect is less often recognized than the other I will concentrate on the implications of high rates of growth.

Let us suppose, for example, that Turkey feels it can sustain a population several times its present size. There is plenty of space, plenty of land, unexploited natural resources, and with developments in agricultural and industrial technology, it is theoretically possible to imagine a population of 100 million by the end of the century. But in

order to achieve such marvels of technological and economic development what does Turkey need? She needs a healthy and productive population; and she needs efficient and full utilization of the labour force; and she needs capital. Let us consider only the current rates of population growth and their implications for the achievement of these conditions, rather than the even higher rates which would be necessary to achieve a population of 100 million.

In 1960 there were in Turkey about 12 million children under 15 years of age. To improve the schooling of these children, both in terms of the quantity and quality of the education, is an important objective in the development of Turkey. But by 1985, in 22 years time, there will be 26 million children instead of 12 million if present fertility levels prevail. In other words, the country will at least have to double its number of schools and teachers in order only to maintain the *present* level of education, with no improvement.

Or consider the age group from which the labour force is drawn—those aged 15-64. Turkey is making great efforts both to reduce unemployment and to better the income of those who are employed. Experience from other countries suggests that it costs several thousand dollars for each new industrial job created. But the productive age group, 15 million in 1960, will increase to over 30 million by 1985. In order just to maintain present levels, the number of jobs will have to be doubled.

The conclusion to be reached from the foregoing is not that Turkey will fail to progress over the next few decades, but that progress will be made much more difficult by population growth. Another way of looking at it is that if the resources which will be expended to keep more people alive were expended on improving the lives of those who are living, both economic and human welfare would be benefited.

In this connection the philosophy of Marxist societies is of interest. The early Marxist position labelled the population problem as a capitalist myth, created to divert attention from basic economic and social reforms. It was felt that a socialist society, because of its superior organization of human and natural resources, could sustain almost unlimited population growth. The philosophy was further emphasized in the immediate post-war period when enormous losses of life led the Soviet Union in particular to a deep concern over manpower. However, subsequent population growth coupled with acute housing shortages and difficulties in improving the quantity and quality of consumer goods have caused major shifts in practice, if not in doctrine. It is of

finance that every communist bloc country with the exception of Albania and East Germany now has a major state programme of legal abortion to the extent that the number of legal abortions approaches the number of births in several countries. Communist China has shifted back and forth from the orthodox anti-Malthusian line to large-scale programmes of family planning. The Soviet Union's birth rate is virtually identical with that of the U.S., and most of the remaining communist bloc countries of Eastern Europe have distinctly "bourgeois birth rates."

Thus far I have been speaking of the implications of population growth for the entire society, and have neglected what is for the sociologist an equally crucial area—the implications of population growth for the family and the individual. For it is the family, in most societies, which must provide the basic education, nourishment, and affection which make human beings of us; and which must bear the pain or the joy which result from large-scale actions of the state.

We frequently hear in Turkey that large families are much desired, that women want as many children as they can have, or that they do not care how many they have. On the other hand, the fact that death rates but not birth rates have declined markedly in Turkey, has important implications for Turkish families—it means that the average number of living children in a family has in fact *increased*. It is not plausible that the additional living children at a time when Turkish families are trying to improve conditions for themselves and their children are felt as a burden, even by humble families of little education. Let us turn now to the results of a national sample just completed in Turkey.

The survey involved interviews with close to 1500 husbands and 1500 wives in 240 villages; about 500 couples in 50 towns and a similar number in 25 cities; and close to a 1000 couples in the cities of Ankara, Ismir and Istanbul. The interviews covered a detailed pregnancy history, knowledge of and experience with contraceptive methods, attitudes toward family planning and family size, and a wide range of sociological questions. Less than one per cent of the people contacted refused to be interviewed and most interviewers reported a high degree of cooperation with the study.

The survey was conducted under the sponsorship of the Research and Measurement Bureau, the Ministry of Health and Social Welfare, and the Population Council. Part of the survey, devoted to the determination of birth, death and infant mortality rates, was designed by a CENCO expert, Miss Kathleen Gales. Sampling design, field work

and processing was directed by Dr. George Angel, and the tionanaire dealing with family planning was designed by myself. Field work was done between July 11th and September 21st, 1963. Only a few preliminary results are available, but these are sufficiently interesting to merit presentation at this time. These data do not include the three metropolitan cities.

Survey respondents were asked the following question: "If you were just getting married, and could have just the number of children you wanted, how many would be ideal?" Only in the villages did a substantial proportion of women say this was up to God, or that it did not matter; and even here only 15% of the village females gave this response. But more significant is the large proportion who want four or less children, which ranges from about two-thirds of the village women to 85% of the city women. In short, the average woman, whether in a village or city, sees about three children as ideal.

While the ideal number is of considerable interest, it might not reflect current desires. Therefore, we further asked whether or not the respondent wanted to have any more children than she now has. Data are only available for the village women, but even among this population, just about half of those who have had three live births want no more children; and about three-quarters with six or more want no more children.

Thus, it would seem that the average Turkish woman not only views a moderate number of children as ideal, but in fact tends not to want any more children after she has borne 3 or 4. Why then do women in Turkey have more children than they consider ideal? A major reason, I believe, is that they lack information about what to do. For example, in the villages, less than a third of the males and a fifth of the females have ever heard of the principal male method of family planning—the condom, a technique which has been available in Turkey for some time as a venereal disease preventive. It is of great significance that by far the technique most known to the population, according to our study, is abortion—a method which among many provokes highly unfavourable sentiments.

In the light of lack of knowledge of safe and effective methods of family planning, it is surprising that so high a proportion of the population favour the idea of family planning. The following question was asked: "Nowadays, some married couples do something to keep from having the wife pregnant too often or having too many children. Generally speaking, do you approve or disapprove of this kind of thing?"

In the villages, only 27 per cent of the women disapproved.

When asked if they would like to learn more about how to keep from having children, 58% of the village males and two-thirds of the females said yes; and when asked if the "Government should have a programme to give information to those people who want to keep from having too many children or not", close to two-thirds of the village males and three-fourths of the village females approved of such a programme.

While our survey indicates an important interest in moderate-sized families and in the means for achieving them, it would be misleading to assume that at the moment these attitudes are overwhelmingly powerful. Because there is little public attention given to these matters, they are little discussed among couples and among friends. For example, in the villages, only half of the women have ever talked to their husbands about the number of children they would like to have and only about a quarter have ever talked about doing something to keep from getting pregnant. Much less likely is discussion or consultation with someone other than the husband. Only about 10 per cent of the village women have ever discussed the number of children they would like to have, or the subject of how to keep from getting pregnant with anyone other than their husbands.

To *activate* the latent interest in spacing children it would be necessary to give public attention to the subject, to have it discussed widely and seriously.

At the same time we must not overlook the fact that a substantial proportion of the population has already attempted some form of family planning: Considering women of all ages, 37% of the townswomen and 44% of the city women report having used at least one method of birth control. With the exception of the douche which 20% of the city and 16% of the townswomen have used, the principal methods reported are male methods—the condom (a fifth of urban women and 12% of townswomen) and withdrawal (a fifth of the city women and a fifth of the townswomen). Induced abortion is also reported quite frequently—4% of the village women, 12% of the townswomen and 12% of the city women report at least one abortion. If this many reported abortion it is fairly certain that at least twice as many have actually practised it—a fact which bears testimony to the deep concern many women have about unwanted pregnancies. This concern might be channelled in the direction of techniques which are more efficient and less dangerous to the health of the mother.

Let us now review what we have learned. First we have seen that Turkey is undergoing the *kind* of population growth which other nations of Europe and North America have experienced, but because of the efficient application of modern public health methods combined with a very high birth rate, Turkey's rate of growth is probably among the highest in history. According to our survey data, the birth rate is 45 per thousand and the death rate is between 15 to 20, leaving a rate of natural increase of three per cent per year. We have seen that it is the rate of population increase, more than the absolute size of population, which can interfere with economic and social development, for much of the investments which could go to improving the way of life of the living must go toward maintaining the present level of living for the increased population.

It is the *rate* of increase then which Turkey should consider slowing, rather than stopping its population growth, and it is the *rate* of having children that families should consider altering, rather than the stopping of having children. Because any national policy of regulating the rate of population growth must not only generally be supported by the people but be reflected in concrete action among individual married couples, data from a recent national sample are of special significance. They show clearly a desire on the part of most of the population for a moderate family size, and an interest in learning how to achieve this ideal. At the same time, it is very evident from our survey that the majority of the population now lacks the information and facilities necessary to achieve its goals.

It is not for a citizen of one nation to tell citizens of another nation what its population size or rate of growth should be, for such decisions are peculiarly and intimately the right and duty of each nation. The foreign specialist can be of assistance by clarifying the problem, however, in providing the perspective of the experience of other nations, and by pointing out the economic, social and human implications of one kind of population growth as opposed to another. Further, the technician can be of assistance in discovering by scientific means the attitudes, knowledge and desires of the population itself with respect to voluntary regulation of family size. My task in Turkey is, therefore, essentially finished. Turkey's is about to begin. Good luck.

EDUCATION FOR FAMILY LIFE

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The instinct to have a family has persisted for centuries, not only amongst human beings but amongst animals as well. While amongst animals, the family mainly serves a biological function, amongst human beings, it is predominantly shaped by the impact of the culture and civilization of the group. That is why it is said that the animal mates but man marries. This implies that mating is only a biological function, while marriage is a social affair. Therefore the family has evolved in human society as a social institution through the impact of culture. That is why we see so many different forms of families throughout the world, each family having its own cultural background though the basic concept might be the same. Taking into account this basic concept in its wider aspect, we can define the family as a unit of society in which individuals related by blood or adoption stay together under the same roof forming one household, and unitedly sharing their rights and duties towards each other for their common welfare and to promote jointly its common culture.

The importance of the family as an institution is accepted all over the world for the stability of society. Without this unique institution, there would be chaos in society. But the forms and types of families vary according to the needs of each society. There are therefore many forms of families existing in different parts of the world, depicting the different cultural and social needs. Thus a family may be matriarchal or patriarchal; polygamous, polyandrous or monogamous; patrilocal or matrilocal. The types of families may differ according to occupations also; e.g. there is a marked difference between the family of a labourer, that of a clerk, and that of a business magnate. The type of family may differ also, according to the place. Thus a rural family is different from an urban one. Even in a city, a family residing in a chawl may differ from a family residing in a flat or a family residing in a bungalow.

Formerly the stability of the family relied mainly on the authority of the head of family and outward factors like social sanctions; today, the stability of the family relies mainly on inward factors such as the emotional bonds between individual members, their cooperation and

adjustment with each other and their companionship. This is a general trend seen in the evolution of the family all over the world. In India the family has gone through many changes and is still in the process of change. In some countries the family, as an institution, has already passed the stage through which it is passing in our country at present and therefore we should learn from their experience and try to avert the drawbacks and pitfalls which those countries have already passed through. Made up as it is of human beings with all their imperfections, no family can be perfect. One should nevertheless, have a concept of an ideal family so that one can try to achieve that ideal.

The impact of industrialisation, especially after Independence, has brought tremendous changes in society in general and in the institution of the family in particular in our country. Cities are growing fast because of large new industries. Legally, women have equal rights with men in all the possible social and economic spheres. Laws regarding the working conditions for women and children in many occupations have been reformed to a great extent. Agricultural and industrial development has opened up new vistas of knowledge in technical and other specialized fields for an ordinary man. All these factors are playing their part in breaking up the joint family system in India which was chiefly based on the authority of a single individual, and replacing it with a modern nuclear family based on companionship. A change in any mode of life generally starts in the city and then spreads slowly to the villages. The same thing is happening with the family in India. In the cities, the new nuclear family based on companionship is slowly emerging posing new problems and difficulties, and demanding new roles for its individual members, husband and wife, father and mother, brother and sister.

To understand these roles properly, one must first know the functions of the family. The main functions are sexual, procreative, economic, emotional and educational. The stability of the family, and through it, the stability of the society, mainly depends on fulfilling all these functions. If any of these functions remains unfulfilled, dissatisfaction and disharmony arise within the family and as a result, disruption of the family may occur. Of course, there is hardly a family which does not have some problem, but many of the problems are created by the members of the family themselves because of ignorance, faulty information or a wrong approach to life. There are natural calamities such as death, illness, financial difficulty etc. occurring in the family but they are less in number compared with self-created difficulties, e.g. if a family has to face financial difficulty arising from the sudden death of the head

of the family, it can be called a natural calamity; but if financial loss is brought about by drinking or gambling or by refusal to take a "lower" job thereby allowing the family to starve, it can be regarded as an example of self-created difficulty.

The functions of the family change according to the needs of the society, and along with it the roles of the different members of the family also change. For instance, in some countries, economic and educational responsibilities are taken up by the Government. The role of parents in relation to their children with regard to these aspects there will naturally differ from that existing in countries where these functions are fulfilled by the families themselves. In a country where education is nationalised, the parents do not have to concern themselves about the educational problems of their children. All the facilities are provided by the State. But this is not so in the case of parents living in a country where education is not nationalised. Here the parents have to be solely responsible for the education of their children. Similarly, the role of husband and wife will differ in a family staying in a village from that of a family staying in a city. In a village, where modern facilities of city life are not available, a woman is generally pressed with the household routines of cooking, washing and mending. Again, because of the familiarity with everyone in the whole village due to its smaller area, she has to strictly abide by the social sanctions, so that she hardly gets any opportunity to go outside her home or do any independent work. The situation in the city on the other hand, is completely different. Here she gets more facilities to finish her household chores quickly which provides her with ample leisure, and she gets more freedom of action. City life demands from her new qualities to equip herself as an efficient wife.

It is high time that we try to understand the value and importance of the role of individual members in the family, and try to prepare ourselves to play these roles adequately and efficiently so that our homes can become abodes of peace and happiness. For this difficult task, the men and women of the coming era will have to change their traditional concepts in many spheres of life and prepare themselves to fit better into modern society. The primary function of the woman will, of course, remain that of looking after her home and children, and the man will continue to be the chief bread-winner of the household; nevertheless, these cannot remain their sole or exclusive occupations. If the need arises, the woman will have to share the economic burden, and in turn the man will have to share in the routine of household management. Men and women will have to learn to be equal partners

in running a home and sharing life in all its aspects. For this, the man will have to discard his traditional superiority complex and the woman will have to discard her traditional inferiority complex. Together they will have to gather correct knowledge of sex, the true meaning of marriage, and the responsibility and joy of parenthood. They will also have to learn the art of home science and home economics.

Today the workers in the field of family planning feel that there is a distinct need as well as a desire for a smaller family throughout the country, but due to some reason or other, people hesitate and do not come forward to accept family planning. The main reasons for non-acceptance, although they realise its need, are lack of knowledge regarding the importance of the family as a social institution, wrong ideas and beliefs, and the wrong approach to life. By spreading knowledge of family life, the people will understand the significance of marriage and the importance of the family. They will not consider marriage purely as a licence to satisfy their sexual urge or as a means to obtain security, and the home merely as a place for boarding and lodging, but will accept marriage as a union, recognised by society of two persons, for their physical, mental and spiritual development. The home will then seem a sanctuary for raising children who will be the fruit and symbol of their love, and for ensuring the continuation of their cultural traditions. Then only will they accept family planning as a natural way of life.

On the basis of the above discussion, the following are the suggestions for spreading education for family life:—

(1) The programme of education for family life should be undertaken on a large scale throughout the country by all government agencies, voluntary welfare organisations, village development blocks, panchayats, and educational institutions, including schools and colleges.

(2) Training programmes for the welfare workers and educational programmes for the general public should be chalked out separately according to the needs of the place.

(3) Research on Social Change and the techniques of Social Change should be made, and studies of different types of families existing in various parts of the country, both in the rural and urban areas, should be made.

(4) Facilities should be provided for higher training for deserving candidates to conduct such social research programmes.

(5) Literature on Family Life Education should be published in all regional languages in the form of leaflets, pamphlets and books.

(6) For the education of the public, both traditional and modern entertainments such as "Bhavai", "Tamasha", "Povada", "Tappa", and dramas and films etc. should be used.

Acknowledgement—My thanks are due to Dr. S. Israel, Research Officer-in-charge, Clinical Section, R.P.U., I.C.R.C., for revising and giving permission to publish this article.

NOTES, ABSTRACTS & REVIEWS

DR. K.C.K.E. RAJA—IN MEMORIAM

To most people in India, Dr. K. C. K. E. Raja is renowned for his work in the field of Public Health but to those of us who are working in the field of Demography, Dr. Raja's name is associated with his pioneering activities with the Demographic Training and Research Centre, Chembur, Bombay.

Dr. Raja was born on August 19, 1893, and had his education at Madras Medical College, Edinburgh, Cambridge, and London, where he studied at the London School of Tropical Medicine and Hygiene. In the latter period of his public service, he worked in several important capacities such as Secretary, Health Survey and Development Committee, (the Bhore Committee); Officer, Health Planning & Development, Central Health Department; Director-General of Health Services, Government of India; Officer on Special Duty, Ministry of Health, Government of India; Director, Demographic Training and Research Centre, Bombay; Member-Secretary, Health Survey & Planning Committee, Ministry of Health, New Delhi; and as Vice-Chancellor, Kerala University.

Dr. Raja published a number of scientific and scholarly articles which included: A Life Table for London; The Use of Bacteriophage Against Cholera in North Arcot District, Madras Presidency; Probable Trend of Population Growth in India; A Plea for a Forward Public Health Policy in India; Health Problems of India; and a number of other papers on population problems and on medical education in India.

In the death of Dr. Raja, our country has lost an eminent Public Health Administrator, an able Educationist and a well-known Scientist.

K. C. ZACHARIAH
*(Demographic Training
and Research Centre)*

BRITAIN'S RISING BIRTH RATE

The present trend in Britain is towards larger families, a matter of deep concern to social scientists who keep a watch on current population patterns. Britain seems to be following the example set by the

U.S.A. whose birth rate has been rising steadily since the war. As Professor Galbraith has argued, a steady rise in real wages eventually defeats the ingenuity of manufacturers to find new domestic gadgets to absorb it; and when this happens, parents tend to devote their surplus cash to having more children. Extreme poverty promotes a high birth rate, and affluence seems to have the same effect, and Britain which is already overcrowded may have to accommodate a population of 70 million or more by the end of the century.

Most economists are of the opinion that an upsurge in population, however perilous in the underdeveloped countries, should be welcomed in the advanced industrial nations, whose economies depend on a steady rise in consumer demand. But purely geographical factors weigh heavily against a rise in population in Britain. Even if British economy can absorb the new millions, its territory plainly cannot. To civilise its choked cities alone, the Buchanan report states, Britain may eventually have to spend £100,000 million; but even these numbing calculations will be invalidated by a population exceeding 70 million—one in four of whom will own a car. Moreover, urban planning is only one area of policy affected by population trends: education, housing, health-care, transport, fuel and power—the whole spectrum of domestic government planning is conditioned by population.

And yet the birth rate is still regarded as outside the legitimate purview of government in Britain. In France, the State has taken deliberate measures to increase it; in India and Japan, to reduce it. More and more countries are coming to recognise that a population policy is an integral part of economic planning. But in Britain it is still left to the blind dictates of *laissez-faire* or to the Deity. This hesitation is all the more surprising in that the State—through family allowances, maternity grants and tax-reliefs—already gives positive, but haphazard, incentives to larger families.

By placing birth-control and medical abortion within the normal ambit of the Health Service, Britain can largely end the problem of illegitimacy and the involuntarily large family. The question may well be posed: should the ordinary citizen whose activities in many other spheres are justifiably restrained for the sake of the common welfare, be encouraged to increase his family regardless of the social consequences? Plainly if the answer is No, not only should the present incentives to large families be abolished, but deterrents should be contrived. (*Condensed from "The New Statesman" (U.K.), 6th December 1963.*)

BOOK REVIEW

Aspects of Alcoholism. Philadelphia: J. B. Lippincott & Co., 1963. (64 pp.)

This book, on the various aspects of the problem of alcoholism, is a compilation of facts and figures gathered from widely-scattered sources. It is specially addressed to the medical profession. However, it also serves as a concise reference book and document on a subject which should be of great interest not only to social workers, law enforcement officers, pro and anti-prohibitionists and research workers, but also to the layman.

The book consists of 12 short chapters with 17 highly instructive tables. The first two chapters are devoted to the definition of alcoholism, its prevalence in the U.S.A., and the characteristics of alcoholics. The data, presented from different studies, reveal that 'urban areas have a higher rate of alcoholism than rural areas'. What is more revealing is the fact, at least in the U.S.A., that 'contrary to public opinion, only about 7% of the total number of alcoholics can be found in the skid rows of America'.

The second chapter, in tracing the five stages to alcoholism, clearly leads one to the conclusion that there is time and opportunity, both for the potential alcoholic and his relatives and friends, to take necessary action in the early stages to prevent alcoholism from setting in. The latter part of this chapter, and the next three chapters, summarises the available data on the physiological and pharmacological aspects of the problem. However, the non-medical reader will be interested in the discussion on the typology of alcoholism viz., the symptomatic drinker who reflects the social situation in which he is involved, and the alcoholic addict who expresses his underlying psychological abnormalities. The fifth chapter deserves the attention of the professional social worker particularly, for it establishes the positive role of the social case worker, nay, the medical and psychiatric social worker, in the treatment of alcoholics.

Chapters 6 to 8, bring together a lot of information on the sociological aspects of the problem, the incidence and aetiology of drinking among the females and youth. It bears out the dictum 'like father like son', for "there were many more abstainers (youth) from non-drinking families (54%) than from families in which one or more parents drank (11%)". Further, violent parental quarrels, desertion by father, hostility of the children towards the parents' inconsistencies, their inability to provide love and material needs, etc., contribute to the youth taking to drink. This raises, among other things, the question of

who is to be educated: the parents or the children? Whatever the answer, social workers and others interested in the welfare of the community have the task clearly marked out for them. They have a wide new arena to work in.

Chapter 9, on the social costs of alcoholism to the community and the nation, throws light on the various expenditures involved for the community. The threat to public health, the cost of medical and health programmes, the jeopardy to the members of the alcoholics' family and the costs incurred by social agencies, accidents and fatalities in terms of lives lost and judicial proceedings, etc. are some of the areas where the community has to pay heavily.

Chapter 10 specially focusses attention on the contribution of alcoholics to traffic accidents. It also indicates the various tests available for estimating the alcoholic content of blood of such drivers and the utility of each test.

Chapter 11 provides answers to some of the questions that are raised in the reader's mind after assimilating the 'telling' facts and figures in the earlier pages. The question raised is: Can alcoholism be cured? The reply is, as may be expected, conditional. It depends on a number of factors. The alcoholic cannot now switch over to becoming just a social drinker. He has to become a teetotaler. His chances are better if he is married, in a good economic position, in a stable, skilled or higher occupation, well motivated, etc. But, in the final analysis, he too needs medical assistance. The last chapter lists, in a nutshell, the 'do's and 'don'ts' for the members of the alcoholic's family.

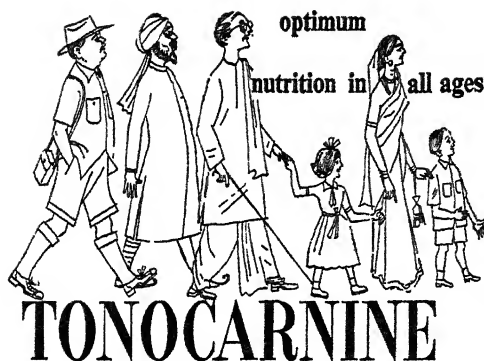
Considering the fact that many people are armed with misconception and half-truths about the problem of alcoholism, this document should help them to clarify their doubts and enable them to familiarize themselves with both the technical and medical aspects. The book brings together many of the latest findings and research studies conducted in the U.S.A. on the problem. It also contains a comprehensive bibliography for those interested in studying the subject in greater detail.

A shortcoming of the book, if it may be called so, is the absence of a section on the reliability and validity of the findings of the many studies which have been quoted.

Finally, the book leaves one with the realisation that there is little or nothing known about the problem in India. This book will have served its purpose if research workers, both medical and non-medical, are enthused to take up the study of this problem along scientific lines.

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1. To impress upon the public the necessity for family planning and to give guidance on reliable methods of achieving it.
2. To work for the establishment of Centres where married couples can get advice on,
 - (a) spacing the birth of children,
 - (b) the use of scientific contraceptive methods,
 - (c) treatment of childless couples desiring to establish a family,
 - (d) marriage problems.
3. To endeavour, wherever feasible, to supply the necessary contraceptive appliances to married couples of low and middle income groups at as low a cost as possible.
4. To collect information and statistics relating to family planning.
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INAUGURAL ADDRESS AT THE FIFTH ALL INDIA CONFERENCE ON FAMILY PLANNING

by

SHRI ASOKA MEHTA

(Deputy Chairman, Planning Commission)

I am deeply grateful to the Family Planning Association of India for giving me the opportunity to associate myself with this Conference. I deem it a privilege to participate in the deliberations because I know of no subject that has higher importance than the one you have assembled to consider.

Economic planning and family planning have to move hand in hand if levels of living are to rise, that is, if economic development is to make any advance towards its objectives and the desired social transformation realised. Unchecked population growth can and does make a mockery of the most well-laid plans of economic growth. The gains of development—agricultural improvements and industrial expansion and diversification—can either reach the people and help to lift the living standards or get lost in maintaining, at the prevailing low levels, an increasing population. In the conditions of India, one cannot make simultaneous advances in both the directions—economic growth and population growth. Population upsurge is not a spur to economic development but a total handicap. To overcome the difficulties created by annual increase in population by 2.5 per cent, we would require a rate of growth that the poverty of the people can never sustain because of the unconscionably heavy rates of savings and investments involved.

A rapid rise in the number of people, as our recent experience testifies, can use up increments in incomes that would otherwise have been used in the provision of education and productive equipment—that is, intangible and tangible tools of growth.

During our first two Plan periods our population increased by 78 million. If that population explosion had been checked, the results of the development efforts that appear to be so meagre today, would have appeared satisfactory. With 80 million fewer mouths to feed, the requirement of food-grains would have been down by 10 million tons. The food situation would have appeared rosy, with granaries bursting and prices reasonable. Our agricultural achievements look bleak partly

because the rapid increase in population has put further burden on its dynamism. That agricultural progress has to be faster is obvious, but its impact will depend upon the pressure of population growth.

Prof. Kingsley Davis recently sketched another facet of the dismal consequences of unchecked growth of population. He said, "I have recently estimated that if the population of India increases at the rate projected for it by the U.N., the net number of migrants to the cities between 1960 and 2000 will be of the order of 99 to 201 million, and in 2000 the largest city will contain between 36 and 66 million inhabitants. One of the greatest problems now facing the Government is what to do with these millions of penniless refugees from the excessively populated countryside." (Scientific American, September 1963 P. 71).

There is yet another probable development with increased pressure of population on land and limited effective employment opportunities elsewhere—a shift of labour force from land and agriculture into non-agricultural activities may well be accompanied by *decline* in the product per worker in the agricultural sector or in the non-agricultural sector, or in both. The consequences of *intra*-sectoral decline in product per worker offsetting the per worker income-raising effect of inter-sectoral shift cannot be ruled out. Population explosion, that means, can result in creating a situation where "industrialisation," with all the sacrifices and hopes involved in such a stupendous tour de force, being accompanied by stagnation in per capita product.

Population growth is thus like a perverse Penelope—not just undoing in the night what is woven in the day, but complicating threads in every way.

This stubborn problem is not susceptible to ideological solution. It has to be faced and overcome whatever one's ideology and if ignored it will erode every ideology—whether socialist or democratic.

The fact of "the Great Divide" in our trend of population growth that 1921 marks cannot be gainsaid: Between 1891 and 1921, population increased by barely 12 million, while the twenties registered an increase of 27 million, the thirties of 37 million, the forties of 44 million, and the fifties of 78 million. We dare not face the sixties and seventies with this process of accelerated growth in full command. We must recognise that for every Rs. 10/- invested in saving a human life (in medicine, hygiene, maternity care, insecticides) an investment of Rs. 1000 is needed to produce the extra food to feed it. Unless this balance of investment is maintained we get into difficulties. But to maintain

such a balance when the population rises so fast would necessitate a rate of saving and investment that the economy cannot sustain.

Till 1921 population growth was restricted by famines and epidemics raging unchecked. After 1921, medical facilities and some improvement in the food situation through increased production and larger imports, greatly weakened the tragic operation of the positive checks. If population growth is not trained and controlled, the earlier checks will reassert themselves, but they will now pull the entire fabric of our society into ruins. There is no return to the cocoon of the past, one has to bare wings and learn new ways—of deliberately organised preventive checks.

In the past people had many children not merely because nothing else was known or could be done, but also, because of the high infant mortality, a larger birth-rate was necessary to have a minimum rate of survival. A family is made up not of births registered but of children that survive. We are naturally anxious to further reduce the rate of mortality, both infant and adult, and the changed survival rate and the increasing span of longevity must shape our thinking and action in the rearing of families. The family is the most intimate and emotionally deeply surcharged focus of social life. The impact of family planning on the levels of living, on educational facilities for children that can be provided, on the future shape and size of agricultural holdings and small enterprises, cannot but be felt by even the densest householder. To take full advantage of this rationality in man is our hope and our obligation.

It is a matter of considerable satisfaction that attitude surveys reveal a welcome degree of receptivity to family planning in Indian households. About 70 per cent of adults indicate that they want a limited number of children at the interval of 3 to 4 years. The response of women, too, has been significant. This favourable attitude is the sole silver lining in the prevailing murky sky.

There has been a considerable expansion in the clinic services in recent years. In 1956, we had merely 20 rural and 125 urban family planning clinics. Today there are over 9,000 clinics and service centres, over 7,000 of them in rural areas. The performance achieved in sterilization in North Arcot district of Madras State, or in the organisation of camps for that purpose in the districts of Kolhapur, Satara and Jalgaon in Maharashtra State, testify to the possibilities of efforts and achievements. Given the necessary determination and drive, we can chain the demon of population explosion. These have to

Family planning activities will not be limited to the availability of funds. Here finance has to be the function of our ability to perform. Finance will not be an impeding factor in the crash effort that we make to move ahead. I do not feel myself competent to enter into a discussion over the merits of various approaches to family planning. That is a matter for experts. Here, as in other social efforts, a multipronged approach will perhaps be necessary, that is my general view just now.

I am glad that family planning is being taken up as a subject to be taught in the Universities in the undergraduate courses. Such efforts need to be extended. Primary school teachers and village officials deserve to be rewarded if they can conjointly help the drive towards family planning, through sterilisation or other ways, in their villages. In factories and other employments, employers and trade unions might undertake the responsibility of spreading interest, and where possible the know-how, in family planning. It is a national campaign to be organised at all levels.

Each State and district under it must set two targets, one for economic growth, the other for population control. Only with this double harness can we hope to achieve development. It is our responsibility to evoke enough interest at all levels of our community—from village to the nation—to work for these two-fold targets. Then only will end the futile efforts at filling a pail with a sieve!

As during the years of the Freedom Struggle, men, more so women, found in Swadeshi and Khadi meaningful work related to the sacred cause, so in our current involvement with economic change and social emancipation from the constraints of poverty and want, application to the work of family planning, at home and around us, can become the focus of dedication to the incandescent objective.

Those assembled in this Conference have to tackle a national emergency. We have no time, every tick of the clock makes our task more difficult. To the extent we evoke a desire to have smaller families we introduce in the whole development process a new dynamism. The levels of living can rise, educational opportunities expand, and status of women change only if this leavening impulse is generated. Family planning can thus be the initiator as well as the sustainer and stabiliser of economic growth.

INAUGURAL SESSION—ADDRESS*

by

SMT. AVABAI B. WADIA

(President, Family Planning Association of India)

On behalf of the Family Planning Association of India and on my own behalf, I deem it a privilege and pleasure to be able to add a word of warm welcome to you all, in addition to the official welcome so heartily given by the Chairman of the Reception Committee.

In particular, I feel very proud and happy that Shri Asoka Mehta so readily and kindly agreed to our request to inaugurate this Conference. We know that Shri Mehta has been keenly interested in the problem of population growth for, as far back as 1957, when he was Chairman of the Foodgrains Enquiry Committee, he stressed the absolute necessity to link the decrease of population growth with the increase of food production. Now with Shri Mehta as the Deputy Chairman of the Planning Commission, we are full of confidence that a new and powerful impetus will be given to the work that we are endeavouring to do.

It is also a great pleasure and privilege for us to have the Governor of Bihar in our midst today. By accepting our invitation to preside at today's function he has lent us great distinction and given us encouragement in the difficult tasks that we have set out to do.

We are also very happy that the Chief Minister of Bihar is the Chairman of the Reception Committee and as such, the host of this Conference. I would like to thank him in particular, and also Dr. Banerjee and Dr. Tripathi and the members of our own Bihar Branch, for extending the invitation to us to meet here today and for the excellent arrangements that have been made for holding the Conference.

Last but not least, I would like to give a special welcome to our distinguished guests from overseas. We have with us Dr. Nicholson Eastman and Mrs. Eastman from the U.S.A. Dr. Eastman's is a great name in the field of medicine and I am sure we shall all profit by his presence in our midst. We also welcome Dr. and Mrs. Rabel from Ceylon, where Dr. Rabel is working on the important Sweden-Ceylon Project in Family Planning.

As you all know, this is the fifth in the series of Conferences being organised by the Family Planning Association of India. The Associa-

* Fifth All India Conference on Family Planning, Patna, 18th to 22nd January 1964.

tion is the national voluntary organisation specialising in the field of family planning and was started 14 years ago under the dynamic leadership of Smt. Dhanvanthi Rama Rau, with a very small band of workers. It has developed into an all-India organisation with a strong Headquarters in Bombay and 31 Branches in different parts of the country and has a multipronged programme of work covering clinical services, the training of personnel, public education in family planning, and encouragement to scientific research.

I well remember that when we started this work 14 years ago, there were a few people who criticised us for even mentioning family planning in public. But in these few years there has been a remarkable change in the climate of opinion. For today, family planning is the burning issue of the day, and not only is it being discussed everywhere, but it is being discussed in a rational, scientific and ethical manner. This is noticeable even in the rural areas wherever the message of family planning has penetrated.

The Association has assisted in creating this climate of opinion, for it has proved effective in focussing public attention on problems of fertility control, and is endeavouring to create an awareness and acceptance of family planning values among the people as a whole. It has also helped to bring the problem prominently to the notice of Government in more ways than one. For instance, just before the First Five Year Plan was drafted, the Association sent up a Memorandum to the Planning Commission emphasising the need for including family planning services in the Plan. There was a fair amount of support for this proposition and, in brief, it was incorporated in the First Five Year Plan, and since then family planning is one of the subjects in which Government has assumed direct responsibility. Again, before the Third Five Year Plan was drafted the Association sent up a Memorandum in which it gave its own assessment of the work done, and made suggestions for future action. Some of the points that were stressed in that Memorandum have, in fact, found expression in subsequent planning in some form or the other.

The Government are now fully committed to the programme, but even so, I am sure that many of us on the voluntary side can still find plenty of scope for impressing upon the Government the need for action in different fields and particularly, for stepping up the tempo of Government procedures (especially grant-giving procedures) which, unfortunately, are notoriously slow!

In this connection, I might also refer to the fact that although many of our top leaders—our great President, Dr. Radhakrishnan, our beloved

Prime Minister (to whom we wish speedy good health) and many other Ministers—have spoken in favour of family planning, as far as Parliamentarians and Members of the States Legislatures and politicians in general are concerned, they have not yet been sufficiently forceful in their expression of the imperative need for population control. Even when lengthy debates have taken place on topics such as democratic socialism, the future shape of our society, and in general, of our Five Year Plans, hardly a word has been said about the built-in menace and threat to all our planning due to uncontrolled population growth. And yet, it is becoming very obvious that not only our socio-economic plans, but our free democracy, and in truth our entire way of life, are in jeopardy due to the very rapid rate of population growth which at present is adding 8 million more people, every year, to our total. It is said that India now has a larger population than the USA and USSR combined, with only 2/5ths the land area of the USA. Already our rate of population growth has overtaken the rate of income growth and will cause a deepening crisis unless something is done quickly. Therefore, it is most essential that all those who wield even the slightest influence over the people at large, should study this question in right earnest and initiate and sustain appropriate action.

Our Conference is meeting at a most opportune moment, for at this very time, several Government Committees and Groups are busy assessing past performance and preparing new schemes for family planning. A sufficient groundwork has been laid for the work since the past twelve years or so, and now the time is overdue when an all-out, concentrated and massive drive must be made in order to bring into every Indian home the message of the small family, which can then be a family with a future, instead of the present state of affairs where millions must be born and live and die under miserable conditions. For such a drive to bring in results, every section and level of the people must be approached and this approach must be made not only by our leaders and social workers, but, in fact, must have a pervasive quality and spread out on a people-to-people basis, so that family planning quickly becomes a people's movement, for otherwise, it cannot succeed.

On the practical level, there is already a formulation of this approach by way of the Extension Education Programme which is being evolved. Our Conference will be devoting a whole day to a consideration of this programme. It sets out the three steps needed, namely, disseminating accurate information about family planning, getting it accepted as a welcome aid to promote family happiness and providing suitable channels for the supply of the necessary products. There are, of course,

many related problems to tackle—such as the demographic and economic aspects, the evolving of better methods of conception control, the indigenous manufacture of contraceptive materials, scientific research into human reproductive processes, the training of family planning workers, establishing clinical and other facilities, and our Conference will take them up in the next three days.

So far, the family planning programme has emphasised clinical efficiency; while this should continue, what we really need now is to reorientate it on a basis of demographic efficacy, so that the birth rate quickly begins to follow the death rate in a downward movement. It is not an unconnected fact that the fully developed countries have got the lowest birth rates. For statistics show that while the underdeveloped regions of the world have birth rates of 40 per thousand and above, the developed regions have birth rates of 25 per thousand and below.

The Central Family Planning Board, therefore, recently suggested a target for the family planning programme, namely, to reduce our birth rate by half in 10 years or so. Even if this goal is to be nearly and not fully reached, it means that a tremendous challenge faces us and an unprecedented task in communication and motivation. I feel, personally, that the key to success lies in firing the imagination of the people, in arousing their sense of values—not only material and economic values but human and spiritual values—in setting before them an ideal of family life, where it is the highest good to bring only so many children into the world as can be adequately looked after and not exposed to inevitable privation and suffering all their lives. Family planning should be shown as providing for families who can look forward to a hopeful future.

In the years preceding Independence, the winning of freedom was the biggest challenge facing us. And freedom was won by igniting a spark among the so-called inert masses, which inspired them to action. Today, the population explosion is the biggest crisis facing the country and, a clarion call must go out to awaken the people afresh, and help them to regard their future as being in their own hands, through wisely regulated fertility. If we can do this, we shall have won a large part of the battle for national survival and progress.

VALEDICTORY ADDRESS*

by

DR. D. S. RAJU

(Deputy Health Minister, Government of India)

I thank the organisers of this Conference especially Smt. Avabai B. Wadia for giving me an occasion to meet you.

This Conference has no doubt focussed attention on the population problem that we are facing today. You have discussed demographic studies and research, educational programmes for country-wide adoption of family planning, methods of fertility control, and other subjects like training and reproductive physiology. Your discussions and recommendations will receive serious consideration by the Government of India.

The problems of population control have to be viewed in the wider context of health, social welfare, social security and social development. Welfare and Health programmes are a major investment in people. Production, either in the factories or on the farms, cannot obviously be increased, if the people are not physically and psychologically fit. In a Welfare State, pledged to develop a socialist society, it is necessary that health, family planning and welfare programmes are developed as an integral part of the socio-economic programme.

Quality not quantity

It is obvious that for the economic growth of the country and happiness of every home, control of population growth is essential. From the point of view of overall economic development, social welfare and now national defence, the family planning programme is supremely important. If the increase of production of food and per capita income continues to be counter-balanced by increase of population, there can be no raising of the standard of living and no possibility of improving the quality of social services. Even for national defence, we need strong, healthy, well-trained young men with good equipment and not a large number of ill-fed, ill-trained and ill-equipped men. It is surprising to hear responsible men say sometimes, that with the Chinese invasion, family planning should be given up. They forget that in modern defence quality is far more important than mere numbers.

* Fifth All India Conference on Family Planning, Patna, 18th to 22nd January 1964.

Organising camps in Block Areas

The problem of reducing the birth rate is complex and difficult. It requires a change in attitude and practices on the part of millions of people. The big problems become easy of solution when they are dealt with in small units, say a District or a Community Development Block or a Panchayat area. If in each Panchayat or Block, 90 per cent of the married couples are convinced that a small family is good for them, have knowledge of and are provided readily accessible supplies and services, the goal of reduction of birth rate can be achieved. To create acceptance and disseminate knowledge, the orientation camp scheme has shown encouraging results. Financial assistance of Rs. 400 for a three day camp of 40 persons is available. Let every Community Development Block arrange such a camp. A guide line on the subject has also been issued. The Primary Health Centre staff, Central Family Planning Field Unit and State Family Planning Officers can give the technical assistance.

Providing facilities

It is important that motivation should be accompanied by services. It is not always necessary to go to a clinic for contraceptives. Local non-medical depots may be established. Proposal for such depots can be sent to the Government of India. Normal trade channels of supplies could be opened. Contraceptives are now available in large cities freely, but not in villages. The village cooperatives can undertake to sell contraceptives. Sterilization facilities may also be made easily available. Sterilization camps in Maharashtra State have shown encouraging results. The resources of the districts, and even private surgeons, can be pooled to arrange such camps. The Government of India has approved payment of honorarium of Rs. 100 per day to private surgeons provided the number of vasectomy operations is at least ten.

Giving top priority to family planning

Madras State, in their Panchayat Act, have included food production and control of birth as major priorities. Some States have put a target of 400 sterilization operations per year per Block of 80,000 population. Sufficient care in selection of cases, consent of husband and wife, operational facilities and follow-up of cases is necessary. It is suggested that the Development Commissioners may give top priority to the family planning programme, review the needs, including those of trained personnel and resources available in each Block, and plan an effective family planning programme.

Publicity

The people must understand why they should have small families, which they can properly look after, educate, and be able to provide their children with all the opportunities that every child in the modern world should have. This can be done only by giving wide publicity to these ideas, and films, being the best mass media, should be screened in each and every village, with captions in regional languages so that they can be understood by all.

Our objective

Once the villager understands that family planning does not mean taking something away from him, but is a way of ensuring a better life for him and his family, he will cooperate and accept and implement the norm of a small family, but in order to convince him we must be convinced ourselves. Let us be very clear in our objective. If we cannot reduce our birth rate by half soon, we might as well give up all hope of better socio-economic conditions and better standards of living in the country.

I have no doubt that the Family Planning Association of India and its branches will grow from strength to strength to extend the family planning programme. The voluntary organisations have a very important role to play and their assistance in extending the programme is of vital importance. I wish you a very successful year of fruitful work.

FERTILITY TRENDS AND NATIONAL POLICY*

Dr. C. CHANDRASEKARAN

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1. Introduction

The Indian Government has the distinction of being the first in any part of the world to have adopted a national population policy of fertility control. In 1951, when programmes of family planning were included in the First Five Year Plan, the approach to this problem was cautious, indecisive and exploratory. Family planning was advocated mainly from considerations of the health and welfare of the family and as a means of securing better health for the mother and better care and upbringing of children. Although the prospect of an increase in the rate of population growth, if birth rates were not reduced, was realised, the Plan had failed to assess adequately the potentialities of population growth. The First Five Year Plan had been based on a future rate of population growth of 1.3 per cent per annum, the same as had prevailed during the period 1941-51, while actually during the ten years 1951-61, the population increased at the rate of about 2 per cent per annum.

The Second Five Year Plan broadened the scope of the family planning programme and increased the budget allocation provided for it. The popularisation of the use of family planning methods through the setting up and servicing of urban and rural clinics formed the core of the programme in the Second Plan. By the time the Third Five Year Plan was framed, the data of the 1961 Population Census were available and the ineffectiveness of the family planning programmes in the First and Second Plans in reducing the birth rate had become apparent. Along with this, it had also become apparent that the fast rate at which the population had been increasing was acting as a check on rapid economic and social progress. The Third Five Year Plan, therefore, rightly emphasised the urgent need for population control and stated "the objective of stabilising the population has certainly to be regarded as an essential element in the strategy of development." An allocation of Rs. 27 crores was made in the Third Five Year Plan for family planning with a promise of additional funds being made available if found necessary. The programme was also made more broad-based. In addition to the provision of services through urban and rural clinics which were to be increased to 2,100 and 6,100 respectively by the end of the Plan

* Paper presented at 5th All India Conference on Family Planning, Patna, 18th to 22nd January 1964.

period, emphasis was to be given to educational and motivational aspects of family planning, indigenous manufacture of contraceptives, and medical and biological research. Sterilisation operations which had been undertaken in some States even during the Second Plan became recognised as an integral part of the family planning programme and during the Third Plan sterilisation facilities were to be extended to district hospitals, sub-divisional hospitals and to such primary health centres as had the necessary facilities for surgical work. With the help of mobile units, sterilisation facilities were also proposed to be extended much further.

We are now in the middle of the Third Five Year Plan period and despite the extension and intensification of family planning programmes, it is doubtful if the national birth rate has shown any decline. With the preparations now afoot for developing the Fourth Five Year Plan, the time has come for a dispassionate assessment of the family planning programme as it has developed so far and to adopt a bolder and definitive policy, with *reduction of birth rate* as the immediate goal of this programme. It is mainly for the purpose of helping the development of such a policy that this paper is presented. The paper will present some of the findings with respect to decline in human fertility and discuss what implications they may have in developing a programme for our own country.¹

2. Experience in countries where fertility has declined

Until World War II began, the only countries which had recorded a marked decline in fertility were those in Central and Western Europe, North America and Oceania. The process by which fertility declined in these countries is now fairly well understood. The declines began manifesting in some sections of the population, especially among the urban and higher social groups and then slowly spread to the entire community. Because of this slowness of spread it took at least 60 years for birth rates to be halved in these countries. We have also some knowledge of how fertility was controlled in these countries. In the early stages of the decline which began about 1880, the method chiefly used was withdrawal. In course of time non-appliance methods began to be substituted by appliance methods but even today non-appliance methods such as withdrawal and safe period account for about half of all contraceptive practice in Great Britain. Among the appliance

1. The discussion deals with aspects which are considered as normally arising in the framing of a family planning programme but not with aspects of social policies such as raising the age at marriage which would also influence fertility.

methods used in Great Britain, condom is the one most popular (13).² In the United States, among the White population, safe period is far more widely practised than withdrawal, and condom and diaphragm are popular and rank high among the appliance methods (10).

It is somewhat difficult to estimate the part played by sterilisation and abortion in the control of fertility in these countries. Although the law against sterilisation has not been clear-cut in Great Britain and in some states of the U.S.A., the conditions under which sterilisation operations are permitted have usually been assumed to be stringent. Yet it would appear that sterilisation operations have been more frequent than what is commonly supposed. In a recent survey in the United States it was found that one in every six wives aged 35-39 had an operation which prevented child bearing. It was also found that sterilisation was most frequent amongst poorly educated couples and older wives in low income groups (10). The incidence of abortions also appears to be much higher than what is commonly believed. For the United States the estimate of the number of induced abortions varies from as low a figure as 200,000 to as high as 1,200,000 per year, which works out to about 1 abortion for every 3 to 20 births (2). The bulk of such abortions can be considered illegal "since relatively few abortions are induced for medical reasons" (10). A careful analysis of the data obtained from surveys seems to indicate that in spite of the widespread use of contraception in the United States "no more than 50 per cent of the couples escape without excess pregnancy" (15). The relatively high frequency of sterilisations and abortions occurring in the United States, indicated above, can be presumed to have resulted largely because of such unwanted pregnancies. In Great Britain the incidence of induced abortions was estimated as being at least 11 per cent of the total number of pregnancies. Among pregnancies which resulted from contraceptive failure, the abortion rate was as high as 18 per cent (11).

There are other evidences of difficulties in practising contraception effectively even among Western populations. Comparing the results of control studies designed to assess the effectiveness of methods of contraception in different communities, Tietze has concluded that acceptance of a method might be affected by such factors as "..... emotional attitudes towards sex, religious doctrine and intensity of belief, native intelligence and educational achievement and motivation" and so also the effectiveness of the method (19). The wide variations in

2. The numbers enclosed within brackets refer to items in the References given at the end of the paper.

the pregnancy rates recorded in different communities practising the same method of contraception show that methods which might have an appeal to one community will not necessarily do so for another. A feature of contraceptive practice observed even in Western countries is the constant demand for 'more satisfactory' contraceptives. Referring to the impact of new methods on contraceptive practice in the United States, Mary Steichen Calderone recently stated "A striking and measurable change in contraceptive practice in 73 Planned Parenthood Centres occurred during a year when two new methods were added to the armamentarium of old methods that had for sometime bogged down because of their cumbersome or unappealing qualities New methods need to be developed that will not only be effective but will appeal to an even wider variety of users than the present methods" (3).

Japan and some of the countries in Eastern Europe are chiefly the ones which have shown rapid decline in fertility in recent years. In Japan the introduction of the Eugenic Protection Law in 1948, whose main object was to protect the health and life of the mother, led to a phenomenal increase in the number of induced abortions. During 1958 when the recorded number of induced abortions reached its peak there were two abortions to every three live births (8). Sterilisation which was also permitted under the Eugenic Protection Law increased in number but has played a relatively insignificant role in the reduction of fertility in Japan. Although a great deal of effort is now being made to replace abortion by contraception, still abortion continues to be a dominant factor in Japan's low fertility.

In Eastern European countries, such as Bulgaria, Czechoslovakia, Hungary, Poland, Roumania and Yugoslavia, birth rates declined markedly between 1954 and 1960—in Hungary by 37 per cent, in Czechoslovakia, Poland and Roumania by 23 per cent, in Yugoslavia by 19 per cent and in Bulgaria by 12 per cent—mainly because of an increase in the number of abortions (1). According to the information available for 1960 or 1961, the rates of legal abortions per 1000 population were 17 in Hungary, 9 in Bulgaria, 7 in Czechoslovakia and 5 in Poland and Yugoslavia (20). As in Japan, in many of these countries abortion was legalised mainly to prevent illegal abortion and thus protect the health of the mother but the immediate effect of such legalisation was to increase the number of abortions to such an extent as to make marked declines in birth rates (12).

3. Experience of family planning programmes in India

Experience gained so far from the family planning programmes initiated in India shows beyond doubt that under existing circumstances

of the preparedness of the population to use contraceptive methods and with the types of methods now available, rapid reduction in the birth rate cannot be expected through contraceptive practices alone. In field trials carried out in rural areas such as those in Ramanagaram on the rhythm method and in Ludhiana on the foam tablets, the reduction in the birth rate observed was extremely small (5, 21). It is only in the Singur trial that there seems to be some evidence that a sustained effort over a number of years to popularise contraceptives can show declines in fertility even in rural areas.

Data obtained during some of these field trials or in family planning clinics corroborate the impression that the choice of a suitable contraceptive by a couple often involves time and trial. In the Rhythm Method Project in the Lodi Colony, New Delhi, which was undertaken as early as 1952 about 83 per cent of women who had come to the Rhythm clinic had already made use of one or more types of contraceptives. The chief reason for coming to the clinic was given as the need for a simpler or more satisfactory contraceptive (9). A recent Survey of family planning clinics in Greater Bombay also supports the view that a search for a simpler or more satisfactory contraceptive is likely to be widespread even among contraceptors. Contraceptors who desire no more children might even prefer sterilisation if they are dissatisfied with the contraceptives they are using. In the Greater Bombay Survey, 37 per cent of the women who had received diaphragm and jelly method at the first clinic visit made use of other methods subsequently or resorted to sterilisation (6).

The degree of effectiveness with which contraceptives are used by various groups in the Indian population has not been high and has fallen short of that recorded in Western countries. The pregnancy rate of women who had attended clinics in Greater Bombay and had adopted the diaphragm and jelly method prescribed at the clinic was 20 per 100 years of exposure as contrasted with pregnancy rates of 7-13 for users in the United States (14).³ Another study by Poti and others in Calcutta city has confirmed the impression that the effectiveness with which contraceptives are used increases with social status. According to them, "not only fewer couples among the lower social classes adopted the condom (or other appliance methods) but the few who did adopt them found them too inconvenient for continued use" (14).

3. The difference in effectiveness is probably greater than that shown by these figures as in the absence of contraception the pregnancy rate in India is lower than in Western countries because of the longer duration of lactation amenorrhea.

A point of extreme importance in gauging the role which contraceptive practice might have in reducing the birth rate is not merely the extent to which contraceptives are used in the community but also the effectiveness with which they are used. Model studies made by Sheps and Perrin have shown that even if contraceptives are used widely but with low effectiveness, the effect on the birth rate might be much lower than when contraceptives are used less widely but with greater effectiveness. Using the data on Western populations these authors have shown, for instance, that the use of contraceptives by 90 per cent of the population with 50 per cent effectiveness will reduce the birth rate by 18 per cent, while their use by 50 per cent of the population with 90 per cent effectiveness will reduce the birth rate by 34 per cent (17). The decline in the birth rate to be expected in the Indian population, under similar conditions, will be lower than the percentages given by Sheps and Perrin because of the relatively long period of lactation amenorrhea. A study done at the Demographic Training and Research Centre, Bombay, shows that if 90 per cent of the population uses contraceptives with 50 per cent effectiveness, the decline in the birth rate will be only about 8 per cent instead of 18 per cent as given by Sheps and Perrin (18).

Sterilisation was accepted as a part of the family planning programme towards the latter half of the Second Five Year Plan and some States such as Maharashtra, Gujarat, Madras and Kerala have given a great emphasis to sterilisation campaigns in their family planning programmes. The appeal which sterilisation can have in urban areas can be seen from the fact that 15 per cent of the women in Bombay who become pregnant after seeking advice from the family planning clinic get themselves sterilised after the termination of the pregnancy. It is also observed that in about 5 per cent of the deliveries that take place in Bombay the wife or the husband gets sterilised following the termination of the pregnancy (4).

Sterilisation can be an effective method in initiating a decline in the birth rate, especially if sterilisation is done when the male is aged below 35 years or the female below 30 years. Simple theoretical calculations show that a frequency of 7 male or female sterilisations per 1000 population done annually (with wife aged 30 years or husband aged 35 years) can progressively reduce the birth rate, reaching a maximum reduction of 30 per cent after 15 years of the starting of the programme (16). The conditions under which sterilisations are permitted will have to be relaxed if they are to affect the birth rates significantly. Recently, the Maharashtra Government has taken a step

in this direction.⁴ Even further relaxation seems justified in the light of the increase in survival ratio occurring as a result of the diminution in death rates (7).

In discussions relating to the development of family planning programmes a distinction has often been made between the roles of contraception and sterilisation, the main difference being that while contraception helps in the proper spacing of children as well as in limiting the size of the family, sterilisation can only be used for achieving family limitation. While this distinction is of importance, in practice it will be of major significance only if the average interval between births is small and requires to be lengthened by large-scale programmes. Results of many studies indicate that the average interval between births in the Indian population is about 3 years and that only 12 per cent of births occur within an interval of 2 years from the previous birth. As such, in India, the need for assistance in the proper spacing between births does not appear to be so great as in the achieving of family limitation. Experience in family planning clinics and elsewhere also shows that the main demand at present is for ensuring family limitation.

4. Suggestions for future policy

The above review of fertility trends in many countries and of the experience gained in the implementation of the family planning programmes in India, has provided several pointers which can be used for reshaping the national programme of family planning in this country.

(1) Contraceptive practices now available cannot be expected to be taken up readily and practised effectively by all sections of the population. While it can reasonably be expected that urban populations can adopt contraceptive practices readily, there can be no doubt that the process of adoption will be very slow in rural areas. The major effort for popularisation of contraceptive practices must, therefore, be concentrated in urban areas. The organisational set up for popularising contraceptives in rural areas can be rudimentary. For the reduction of the birth rate it should be recognised that the effectiveness with which contraceptives are used is even more important than the extent to which they are used.

4. The Sub-Committee of the Panel on Medical and Public Health Relief on Family Planning, appointed by the Government of Maharashtra, has recommended the following conditions for the selection of sterilisation cases: (i) The couple should normally have 3 children, one of which should preferably be male; but if the couple having 3 children of the same sex insists on sterilisation being done, doctors should not refuse it; (ii) If the couple having 2 children strongly desires to undertake sterilisation, doctors may consider the case carefully; (iii) While male sterilisation should be carried out at any age, female sterilisation should not be carried out after the age of 45 years except for medical reasons.

(2) Sterilisation can be an effective method both in urban and rural areas and deserves to be given far greater emphasis than what has been done hitherto. In the rural areas, a higher priority should be given to the popularisation of sterilisation than of contraceptives. Standards and procedures should be set up so that sterilisation operations at the rate of at least 5 per 1000 population can be undertaken annually.

(3) Recent experience in other countries shows that the legalisation of abortion has resulted in marked declines in fertility. It is expected that increasing pressure for family limitation will increase the demand for abortions in India as well. There is need for a policy which will liberalise the securing of therapeutic abortions, while providing safeguards to prevent a woman going in for repeated abortions. Such a policy would not only result in large reductions in the birth rate but at the same time would protect the mother from the dangers of surreptitious abortions.

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IMPLICATIONS OF THE NEW EXTENSION WING IN FAMILY PLANNING*

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The family planning programme was recently reorganised and the most important feature of this reorganisation was to give the extension education bias to the programme because the great bulk of experience and research in Public Health Programmes and Community Development Programmes both in India and abroad have revealed that community problems are best solved by the community itself. Uncontrolled growth of population is also greatly a community problem. The decisions of individual couples are basically dependent on the social environment in which the couples live. Community and family relationships affect their actions which may be considered proper and normal things to do in their own sphere. There is no external power for change in behaviour that is as great as this internal power of the group to which one belongs. It is, therefore, of primary importance to work with that group, as a whole, to help the group move towards acceptance of contraceptive practice as a normal and proper way of life.

In order to talk about the implications of such a programme let us first briefly review what extension means, what is its philosophy and what are some of the basic principles behind extension programme planning.

Extension education in a general sense, means to help groups of people to obtain the knowledge and to go through the processes which they must go through in order that they themselves will develop new norms, and new attitudes, values and practices.

Extension education is based on the assumption that human beings anywhere have basic desires and need for dignity, self-reliance, freedom and moral responsibility. It is the faith that the people can—and must—do it themselves that is the basis for the extension education process. It involves providing scientific knowledge and information to the people and demonstrating to them how a practice based on that knowledge can meet some of their desired needs and can answer some of their wants. It involves encouraging them in various ways to take necessary decisions to adopt new practices and reject old, unhealthy modes of behaviour or ways of life. Most essentially, it involves helping to break

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through communication barriers so that people in a group can *discover* their own common desires and needs. It involves helping to create situations where people can proceed to achieve consensus that a new value or idea, or practice, is the right thing for their group.

Extension programme planning must be a co-operative venture between trained extension workers and the people whom they seek to aid. Bringing about group acceptance of the small family norm can be best achieved by working with local leaders. Through leaders, information about the desirability of a small family can reach a greater number of people and is more likely to be understood and accepted because leaders speak in the language of the local people. They can also help to identify and analyse local problems of acceptance, as a basis for programme development, in ways that no outsider could do.

In brief, extension education means :

Not asking people *to meet our needs*, but guiding them to discover *their own needs*,

Not telling people *what they should do*, but helping them to reach decisions and plan for *what they can do*,

Not *doing for people*, but *helping them do* for themselves.

The extended family planning programme is not the government's programme or the worker's programme, it is the community's programme, and *the people's programme*.

Successful implementation of such a programme requires :

1. A well-trained and skilful field staff,
2. Supervisory support and guidance for that field staff,
3. An effective flow of contraceptive supplies and sterilization services, and
4. Judicious planning and phasing for implementation.

Let us examine each of these implications :

1. A well-trained and skilful field staff :

It is envisaged that about 84,000 workers will be required to implement the extended programme. The Government of India has made sufficient provision for additional staff but difficulties are being experienced in acquiring sufficient personnel. There is, of course, a shortage of trained personnel, and available personnel often are unwilling to serve in rural areas. In order to overcome these difficulties, there is a need to provide adequate physical facilities and incentives to attract trained personnel to work in the field of public health and family planning and to work in rural areas.

Staffing is not only a problem of sufficient numbers of family planning workers but even more important, it is a problem of providing all these workers with the needed knowledge and skills for carrying out the extension education process. Vast numbers of new workers must be trained in family planning and extension work. Even experienced workers will need skill and training in extension education methods. Each family planning worker must be able to

1. Identify community leadership for family planning;
2. Organize this leadership into a working group;
3. Use his skills in guiding group discussion and decision-making;
4. Help such groups assume leadership and responsibility for community family planning programmes; and
5. Work closely with block workers and other agency workers to bring about a co-ordinated effort towards the family planning programmes.

Such a programme goal has tremendous implications for our training programmes. It means the establishment of more training institutions, the development of new curriculum content, testing new methods of teaching, developing new teaching materials, and creating field training laboratories for practice in the use of extension education skills. Plans for implementing this huge training programme include new training centres to be opened at State and divisional levels, training designed to give special help to the faculties of training centres on new ways of teaching extension education skills, the development of urban and rural demonstration projects for field training and skill-practice at each training centre, and efforts to bring about a high standard of quality to all of our training activities.

2. Supervisory support and guidance :

In every state, district, block and city a full-time extension education officer is needed who can mobilize and co-ordinate local resources, develop realistic plans suited to local conditions and who can guide and support a field staff by helping them in the solution of problems, giving them self-confidence and a sense of the worth of the work they are doing. Without such supervisory support and co-ordination, the efforts and skills of field workers will be unnecessarily wasted. This implication suggests that, at the very least, the block extension educator should be in position before family planning field workers are appointed.

3. Supplies :

Assuming that staffing and training are carried out quickly and effectively, the success of the programme will not be possible unless and until routines for distributing contraceptives and providing sterilization services are also in position. Not only is it a useless waste to educate people to use contraceptives which are not made available to them at the precise psychological moment when they are ready to use them, but such situations usually have negative effects on their motivation. People tend to lose confidence and trust in programmes that do not follow through—and readiness may not come a second time. Therefore, before extension education programmes are started in any given locality, there must be assurance that supplies not only can be provided, but a plan for their distribution has been developed.

4. Judicious planning and phasing for implementation :

Bringing together adequate supervisory and field personnel, providing opportunities for their training, planning for the storage and distribution of supplies in such a way that all are accomplished at a single moment in time brings up the problem of phasing.

The Government of India has sanctioned additional staff, but, obviously, not all posts can be filled at once! Plans for an intensive programme of personnel training are under way, even so, not everyone can be trained at once! Finally, without a full complement of trained personnel, supplies cannot be made to reach every corner of the country at once!

Despite these facts, a beginning has to be made. One approach to this problem of phasing is for each State to begin by selecting one or two districts, providing these with the full complement of personnel, training facilities and supply-lines, and implementing the programme Block by Block. As personnel become available, the work can be extended to additional areas. With such an approach, the task seems less formidable, a sound and effective programme is launched in a few areas, experiences are gained from which useful modifications can be derived, and programme impact can be determined.

In the long run, such an approach in phasing is likely to bring more dramatic and successful results than starting in many areas with only half or a third of the components for a successful programme.

All of us are aware that in India, we are involved in a programme that has worldwide significance. The challenge is a hard one—but it is also an exciting one! Let us meet it with hope, with action tempered by discipline and, above all, with determination to succeed!

STERILISATION AS A METHOD OF FAMILY LIMITATION AND ITS IMPLEMENTATION IN THE FAMILY PLANNING PROGRAMME*

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A. STERILISATION AS A METHOD OF FAMILY LIMITATION

1. Characteristics of a method of family limitation

Any method of family limitation or a method used for spacing of births should satisfy the following conditions :—

- (a) The method should be highly acceptable to the community,
- (b) The method should have a high effectivity,
- (c) The method should be safe and harmless,
- (d) The method should be cheap,
- (e) The method should be readily available and practicable.

2. Acceptability of Sterilisation

In the beginning of the 2nd Five Year Plan, the method was not viewed favourably either by the Government of India or by the Family Planning Association of India. The fact that we are now discussing it as a method and its implementation in the programme, reveals that the method has now been uniformly accepted by the organisations which are entrusted with the planning of our programme. To those workers who are new in the field of family planning, it may be a piece of news that in 1958, sterilisation was not officially accepted in our programme. This made it necessary for me to organise the first vasectomy camp at Wai on May 18 through the agency of a district Municipality. The gradual changeover has resulted due to the untiring efforts of Dr. Phadke, and the States of Madras and Maharashtra. Thus the acceptance of sterilisation by family planning workers is now almost complete.

There is ample evidence to show that the community is accepting sterilisation more and more. This is revealed by the figures of India as a whole and those of Maharashtra and Madras.

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TABLE 1

No. of Sterilisations in India, Maharashtra and Madras.

Year	India			Maharashtra			Madras		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1956	2879	5226	8135				25	670	695
1957	3760	10792	14557	257	606	863	231	1573	1804
1958	10676	17853	28529	1783	2774	4557	986	1864	2850
1959	16630	23607	40237	3932	6911	10843	1330	2013	3343
1960	37373	25157	62530	17361	4647	22008	5184	2672	7856
1961	60196	37405	97601	15137	5567	20706	22420	2915	25335
1962	93138	30023	123542	22813	9255	32068	46464	3039	49403
1963				30000	10000	40000	15467	1551	17018
(under estimate)							(Upto Aug. 1963)		

The figures of sterilisation in other states specially the southern states is also on the increase. It may be argued that the increased acceptability is due to the positive stress on sterilisation. This is no doubt, true. However, the following figures of tubectomy in Maharashtra show that tubectomy is on the increase as well. No positive stress is laid on tubectomy.

TABLE 2

Tubectomy operations in Maharashtra

Year	Tubectomy Operations	Year	Tubectomy Operations
1956		1960	4647
1957	606	1961	5569
1958	2774	1962	9255
1959	6911	1963	10000

The fact that there is an increase shows that the community is demanding this service from the usual hospitals in increasing numbers. The organisation of the first non-puerperal tubectomy camp in Satara on 15th December 1963, wherein 50 tubectomy operations were performed, reveal that if it is possible to organise these camps on a wider scale from the organisational, administrative, financial and technical point of view, mothers will also come in increasing numbers for tubectomy. I want to point out that even without stress on our part, the acceptability of tubectomy is on the increase and if our figures are less, it is due not to the low acceptability but to our inability to make the necessary facilities available at a number of places in the district.

The figures of vasectomy also reveal that the cases have increased not only through camps but also in hospitals and dispensaries. One can expect an increasing number in camps as a result of a definite programme for the same. There is no such programme for hospitals and dispensaries. Table III shows that more and more vasectomy operations are performed in dispensaries and hospitals.

TABLE 3

Vasectomy operations in Camps and in Dispensaries and Hospitals of Maharashtra

Year	No. in Camps	No. in Dispensaries and Hospitals	Total
1958	230	1753	1783
1959	1125	2807	3932
1960	11629	5732	17361
1961	10460	4737	15137
1962	14492	8320	22813
1963	21000	9000	30000

The figures reveal that the community has started utilising available resources and this may denote a social norm and group acceptance of this operation by the community.

Most of the persons that come to us necessarily belong to the low income group as higher income groups are not expected to avail of free facilities. The records in our State show that 83% of the persons have an income less than Rs. 100/- per month and 15% less than Rs. 150/-. Thus 98% acceptors have an income of less than Rs. 150/- per month.

Regarding the literacy status, 30 percent are illiterate, 50 percent have studied upto primary level, 19.5 percent upto Matric level and 0.5 percent upto graduate level. Our sample is of course biased as stated above, but the figures amply show that the majority of our clientele have a low income and are either illiterate or just literate.

Among the occupational groups, teachers seem to have a higher acceptance of vasectomy.

The average age at sterilisation in Maharashtra State is 37 for males and 32 for females. In 1960, the average age of vasectomised persons was about 40. As the programme advances and the operation becomes more acceptable, the younger age groups tend to accept the procedure. Thus it is expected that very soon we may reach an average age of 35, the mother's age being 30.

Though we may be ready to operate after three children, the actual acceptability pattern reveals that the majority accept the method when they have more than four children. As a matter of fact, the average number of living children is five. This factor is also based on the conditions for selection of cases. In Maharashtra State, it is necessary that the age of the last child be above five years in case a person has only three children. Due to irregular or no use of contraceptives, two children are added before he becomes eligible for sterilisation. Hence it is felt that these conditions should be revised.

It is seen that the information about vasectomy is gained from salaried personnel. Thus the Social Worker gives information to 24 percent, Gram Sevaks to 15.5 percent, Sarpanch to 13 percent and the Sanitary Inspector to 10 percent. The following table gives the list of agencies and percentages.

TABLE 4
Agencies that give information about vasectomy

Agency	Percentage of persons informed	Agency	Percentage of persons informed
Social Worker	24%	Gramsevaks	15.5
Sarpanch	13	Sanitary Inspector	10.5
Sterilised person	8	Secretary, Gram-Panchayat	8
Press	5	Friends.	5
General Meeting	4	Block Development Officer	3.5
Others.	3		

It will be seen that the information and thus primary motivation for vasectomy comes from official agents at the present stage. One would have expected that the main source of information would be a sterilised person, but this does not seem to be so. However, the sterilised person does act as a reference individual in the community. Among the vasectomised persons in 1962, 66% had consulted a previously sterilised person who acts as a very good agent in ultimately motivating the individual. The fact that 34% came to the camp without such prior consultation means that group acceptance of vasectomy has already commenced, but in the early stages no case ever came without first consulting a sterilised person.

3. Effectivity of Sterilisation

The effectivity of sterilisation should be judged from the number of pregnancies following sterilisation. There are four possible ways in which pregnancy may result after sterilisation:—

(1) When the wife of a person undergoing vasectomy or the woman undergoing non-puerperal tubectomy, is pregnant at the time of the operation.

(2) If proper care is not taken within the first three months after the vasectomy operation.

(3) Due to failure on the part of surgeons to cut the right tube.

(4) If after vasectomy, or may be before vasectomy, the wife is faithless to the husband.

Tubectomy operations report a failure rate of 5 per 1000 operations; the corresponding rate for vasectomy will not be more than one in thousand as far as failure of the operation is concerned. However, pregnancies do result after vasectomy. The majority of the pregnancies occur as a result of the first two causes listed above. A certain failure rate of operation has to be assumed as inevitable when the programme is on a mass scale and involves the training of medical officers as well. The cases of pregnancies coming under the fourth category are known, but are very rare.

Two percent of the cases show complications ranging from a small swelling to a big haematoma. In about 1500 camps so far organised, only one camp has shown a high incidence of post operative infection due to the negligence of the Medical Officers attending the camp. Apart from the clinical effectivity, the most important thing one should know is the demographic effectivity, which depends on the number of living children when the sterilisation was carried out. In the State of Maharashtra this comes to almost five. If the total fertility of an Indian woman is taken as seven, two births are prevented per sterilised person. The impact of sterilisation can be calculated on this basis. However, the more correct method is to find out the average age group and apply the age-specific fertility rate. Thus 1,60,000 sterilised couples with an average age group of 30-35 and age specific fertility of 219.22 will be preventing 32,000 births. If the age group at sterilisation is 25-30, the same number will prevent 48,000. It will be seen that the mere quantity of sterilisation operations performed is not sufficient, the age-group of the sterilised couples is also important. An attempt must therefore be made to maximise the number of sterilisations within the age group 25-30.

With the present age at sterilisation, and the target of 20,00,000 sterilisations, there should ultimately be a reduction of 3,20,000 births in Maharashtra. This will work out to a reduction of birth rate to the extent of 21 percent in the next 10 years. If however, the age at sterilisation is 25-30, the reduction will be 4,80,000 births or a reduction of birth rate to the extent of 32 percent. The State of Maharashtra is revising the conditions so as to approximate 32 percent.

4. Safety of Sterilisation

Is sterilisation harmful? The following notions were present about vasectomy in the beginning of the programme:—

- (a) After vasectomy a man loses his potency.
- (b) Vasectomy is a very dangerous operation and is performed after making the patient unconscious.
- (c) After vasectomy, what guarantee is there that a pregnancy will not result?
- (d) After vasectomy, a person loses health and becomes emaciated.
- (e) After vasectomy, a person cannot always resume his previous type of work. Heavy work is impossible.
- (f) What happens if the wife dies after the vasectomy?
- (g) What, if after vasectomy, all the children die?
- (h) Vasectomy is nothing but mutilation of the private part.
- (i) Vasectomy is a painful operation and the patient cannot walk after this operation for a considerable number of days.
- (j) Is vasectomy legal?

The most important effects that are feared are sexual and psychological.

Dr. Phadke has made the following analysis of sexual behaviour after the operation:—

TABLE 5
Dr. Phadke's analysis of 605 cases.

	No Change	Improved	Deteriorated
Sex act	481	74	40 (8.3%)

TABLE 6

Five years and over after operation

	No Change	Improved	Deteriorated
Sex act	267	29	14 (45%)

Dr. Koya's analysis is as follows :—

TABLE 7

Sexual effects of Male Sterilisation.

No change	92
Exciting	2
Depressive	3
Total	97

Dr. Phadke's sample is likely to be biased as the method involved was a mail questionnaire with a high degree of non-response.

Mrs. Dandekar has studied this problem in much detail and her observations on 1,191 men, who underwent vasectomy in the Sangli District of Bombay are summarised below :—

The follow-up of Mrs. Dandekar's sample is limited to 25 months or above. Almost more than 90% of the cases were vasectomised two years back. Thus her observations cannot be compared with the late follow-up of Dr. Phadke's.

Mrs. Dandekar has observed as follows :—

	No change	Increase	Decrease
Sexual desire	35%	11%	53%

Mrs. Dandekar has made out that in the absence of a control group these results cannot be interpreted as significant. She has also pointed out that frequency of coitus has decreased after vasectomy in those cases in whom there is less sex desire. In this connection she has made out that wives of the persons were not interviewed and as such cross-checks regarding reliability of data could not be made.

In the sample, the period of follow-up was very small. Most of the persons were followed after the 13th and before the 18th month. The interviews have been taken after a considerable lap of time. In view of the long period of recall, it is quite likely that the frequency of

coitus might have been incorrectly reported. The age factor is also important. The average age for sterilisation is 40 and thus the part played by age in decreasing sex desire should also be considered.

The observation that 93 percent of the persons do not have any remorse also raises the question of validity of the statement that 53 percent experienced lessened desire after vasectomy.

We have followed 180 cases, which were operated in November-December, 1960 at Sirur. The method was by questionnaire interview and the period was two-and-a-half years after the operation. The sample was no doubt a biased one, but we feel that the follow-up of these cases will throw quite a good light on the subject. The sample is homogeneous in the sense that all were followed up after the same interval of time. The average age of the husband at the time of sterilisation was 39.

TABLE 8
Frequency of coitus before and after

Frequency of Coitus	Husband		Wife	
	Before	After	Before	After
0	—	6	—	6
1-4	64	99	24	23
5-8	79	63	120	119
9-12	18	8	33	27
13-16	12	2	3	5
17-20	2	1	—	—
21-24	1	1	—	—
Average:	6.1	4.5	6.8	6.5

We have also elicited the frequency of coitus before and after the operation. The average frequency of coitus before and after the operation are 6.1 and 4.5 respectively, per month. Thus there is a decrease in the frequency of coitus as perceived by the husbands. Their wives however, gave average frequencies as 6.8 before the operation and 6.5 after the operation. It will be seen that though the husbands perceive a decrease in frequency their wives do not corroborate their statements. In the series surveyed by Mrs. Dandekar, wives were not questioned. The question now arises as to whose perceptions are more reliable. The reliability of these findings should be consistent with our other findings of a positive attitude towards vasectomy and the lack of emotional disturbances. Hence we are more prone to accept the verdict of the wives.

The sex desire in husbands as perceived by their wives, had undergone no change in 65%, it increased in 23.3%, and decreased in 21.7%. Though in 21% desire had decreased, there was no dissatisfaction in sex life as revealed by other answers. 92.1% of the husbands felt that there was no change in their qualities of manliness, 3.4% felt it had increased and 5.5% felt that it had decreased.

The duration of the sex act as perceived by husbands and wives are as given below :—

TABLE 9
Duration of Sex Act after Vasectomy.

	Perception of husbands	Perception of wives
No change	87 (48.3%)	113 (62.7%)
Increased	43 (23.3%)	22 (12.3%)
Decreased	50 (28.4%)	45 (25%)

It may be seen that 25% of the couples feel that the sex act after the operation is of a shorter duration.

It is seen that our results closely resemble the analysis made by Dr. Phadke. In order to get reliable and valid information, it is very necessary that a longitudinal prospective study should be undertaken. However, in view of the increasing acceptability of the operation, all fear of lack of sexual desire should be set aside. I feel that in cases where sexual desire has increased or decreased, the adjustment is definitely effected as time passes.

The next question is about psychological reactions. So far I have come across only one case of temporary neurosis in 1960. The case completely came round by the assurance treatment given by the medical officer at the Primary Health Centre. No cases of permanent neurosis or psychosis have been reported.

The emotional disturbances are bound to follow immediately after the operation. However, they do get adjusted in the course of time. The decrease in frequency of coitus as stated by husbands in Mrs. Dandekar's analysis has been ascribed to psychological reactions. Her data of weak desire in relation to literacy status as shown below reveal that the largest percentage reporting a weakened desire were among the illiterate and just literates, and that this percentage fell gradually with a rise in the level of education. It seemed therefore probable that with lower levels of education, even though people volunteered for

vasectomy and were assured of the harmlessness of the surgical operation, all psychological fears were not done away with.

TABLE 10

Change in the sexual desire of men with various levels of education

	Weakened Desire	Unchanged	Strengthened	Others	Total
Illiterate	254	127	28	5	414
Just Literate	54	10	12	1	77
1-4 Standard	145	96	39	1	281
5-7 "	154	148	37	1	340
8-11 "	8	6	5	—	19
S. S. C. & Above	18	27	15	—	60
Total	633	414	136	8	1,191

No well-designed study regarding psychological effects has so far been conducted. Dr. Barnous of Deccan College, Poona, has conducted with our co-operation, Roshorches T. A. T. and drawing tests on 100 individuals—fifty percent of whom have not undergone vasectomy. His analysis is eagerly awaited.

Judged as a whole, the method of sterilisation is perhaps more harmless than many of the contraceptive methods.

5. Cheapness of Sterilisation

The State Government has now taken up the responsibility of carrying out sterilisation free of charge. Thus as far as the general community is concerned, sterilisation costs nothing. Moreover, sterilisation is also cheaper than other contraceptive methods. In Maharashtra State, the cost of one vasectomy operation comes to Rs. 18/- without, of course, taking into consideration the salaried staff employed otherwise by the State for other functions. The cost of tubectomy does not exceed Rs. 40/-. The cheapest contraceptive viz. Foam Tablets cost Rs. 6 per year or Rs. 78/- per couple from the age of 32 years, when sterilisation is carried out, to 45 years. Thus of the two, vasectomy is cheaper. Sterilisation is then cheaper than contraceptives.

6. Ready availability of sterilisation

The pattern adopted by the State of Maharashtra and Madras has brought sterilisation within easy reach of the community. Thus the vasectomy camps in Maharashtra and the selected surgeons in Madras State have definitely made sterilization facilities easily available.

B. STERILISATION AND ITS IMPLEMENTATION IN THE FAMILY PLANNING PROGRAMME

1. Objectives and Assumptions

The objectives of the Family Planning Programme should be first laid down. The objective laid down by the Central Family Planning Board is to achieve a birth rate of 25 per 1000 in 1973. For the purpose of this discussion, we will lay down that a birth rate of 20 per 1000 should be achieved at the end of ten years. Presuming the present birth rate as 40 per 1000, we will have to reduce 20,000 births per year in a population of one million. Let us further assume that three-fifths of this reduction of births should be brought about by sterilisation. Thus in a million population we must reduce 12,000 births per year by sterilisation. Let us assume 37 as the age of the husband and 32 as the age of the wife at the time of operation, and with an age specific fertility of 200, 60,000 sterilisations will have to be carried out in ten years. If the sterilisation is carried out at a younger age, this number will be less. The number of 60,000 sterilisations should then be phased over a decade as shown in Table 11.

TABLE 11
Phasing of Sterilisation

Year	No. of Sterilisations
1	2,000
2	3,000
3	4,500
4	7,500
5	8,000
6	8,000
7	8,000
8	8,000
9	8,000
10	8,000
Total	65,000

After laying down these targets the next step is to allot the targets to each block on pro-rata basis or on the basis of population. This should also be worked out for the ten years as shown in Table 12.

TABLE 12

Block-wise break up of target (15 Blocks)

Year	Sterilisation per Block
1	134
2	200
3	300
4	500
5	534
6	534
7	534
8	534
9	534
10	534

2. Organisation and Methodology

The District Family Planning Organisation includes a mobile team consisting of a Medical Officer and a social worker. In addition there are Medical Officers of the Primary Health Centre and other dispensaries.

The first step is to get about 20 Medical Officers trained in the technique of vasectomy. The Medical Officers will be trained in vasectomy camps organised by the district organisation. The schedule for training should be 50 operations to be assisted, 25 to be done under supervision and 25 to be done independently. However, some Medical Officers can perform all the operations within a single camp and they should be encouraged to do so.

Thus in a district, the first series of camps will be organised by the District Family Planning Organisation, but within a year trained Medical Officers will be available. The trained Medical Officer should be supplied with equipment given in Appendix II and he should be asked to carry out small camps within his jurisdiction. Thus in a year or two, 20 sterilisation sub-units should be built up. A target of 400 sterilisations should be entrusted to one such unit.

The methodology of appointed surgeons should also be considered. These twenty Medical Officers should be declared as authorised Surgeons and cases should be referred to them as a routine on appointed days.

A combination of two procedures should also be worked out.

A sterilisation register should be kept by each sub-unit.

The experience gained in Maharashtra and Madras show that it is advantageous to pay a compensatory allowance of at least Rs. 10/-. Unfortunately the Government of India has not agreed to share this amount. However it is in the State's interest to pay allowances, as the two children who would be otherwise born, would be a financial burden to the State in view of many aspects of social security measures that are now coming up. For example, some states now pay school fees to low income groups. The expenditure on this item would be lessened if there were fewer children.

Another important thing is the payment of incentives to Medical Officers and paramedical staff who assist them. We are paying Rs. 3.50 to the Medical Officer, Rs. 1.50 to the assistant and Rs. 0.30 to the attendant. The Government of India has agreed in principle to the payment of fees to private practitioners. However, the latter is impracticable, because it is impossible for one medical man to collect cases, and when an institute does it, he does not operate in the capacity of a private practitioner but as the representative of that institution. It is high time the Government of India realises that, as in Maharashtra, both private and public sector doctors should be paid a nominal amount.

The methodology of 20 sub-units which I have suggested will work more efficiently if these incentives are allowed either by the State or by the Central Government.

3. Education in Sterilisation

Many workers in the programme are surprised to see so many people undergoing sterilisation in Maharashtra, and inquire about the educational activities that have elicited this response. The educational activities that should be considered are :—

- (1) A simple pamphlet on sterilisation.
- (2) A detailed pamphlet on sterilisation.
- (3) Discussion on All India Radio in the rural forum programme.
- (4) Group meetings and group discussions. A sterilised person should address the meeting.
- (5) Individual contacts through social workers.
- (6) Orientation camps—the target should be one orientation training camp per block per year. A sterilised person should address the delegates. There should be free discussion on the subject of sterilisation.
- (7) Publicity about vasectomy camps in newspapers.

We may also include the following incentives :—

- (1) Free transport to and fro.
- (2) Rs. 10/- to the sterilised person for compensation.
- (3) Rs. 3.25 per operation to the doctor or Medical Officer (Public Sector—Private).
- (4) Rs. 1.50 to his assistant.
- (5) Rs. 0.25 to the attendant.
- (6) Rs. 0.50 to paramedical workers or the C.D. Worker.

All these allowances should be paid even if a single operation is performed. The cost comes to Rs. 15 to Rs. 16 per operation and as I have shown this is cheaper than contraceptives.

The Sub-Committee appointed by the Maharashtra Government has recommended the following conditions for selection of cases :—

- (1) The couple should normally have 3 children, one of which should preferably be male, but if the couple having 3 children of the same sex insists on sterilisation being done, doctors should not refuse it.
- (2) If a couple having 2 children strongly desires to undertake sterilisation, doctors may consider the case carefully.
- (3) While male sterilisation should be carried out at any age, female sterilisation should not be carried out after the age of 45 years except for medical reasons.

In the beginning, not even one operation should be refused. Big vasectomy camps should be organised occasionally as they get wide publicity and are of great educational value. The primary responsibility of registering the cases should be with the Block Development Officer who along with his taluka Panchayat Samiti should be completely involved. District and Panchayat level persons should also extend their cooperation and help educate the policy-makers.

In addition to this a referral service should be established by urban Family Planning Centres and in the hospitals in the city.

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APPENDIX A

*Instruments and other material required for 50 cases during
a Vasectomy Camp.*

Serial No	Name of Article	Size	Quantity
1.	Allices Forceps		
2.	Mosquito Forceps (curved) .	16"	8
3.	Mosquito Forceps (straight) .		8
4.	Artery Forceps .. .	20 32 cm.	12
5.	Scissors Surgical	6"	3 to 4 pairs
6.	Gauze Scissors .. .	9"	1
7.	Knife Handles .	32	3
8.	Knife Blades	12	
9.	Dissecting Forceps	15.24 cm.	4
10.	Syringes 10 cc. .	10 ml.	4
11.	Hypodermic Needles	22 G x 1"	8
12.	Suturing Needles (straight or curved) ..	No. 10 No. 9	8
13.	Surgical Gloves	6½ and 7"	Q. S.
14.	Sponge Holding Forceps		2
15.	Pressure Steriliser .. .	Portable to accom- modate drums of 20.32 cms. and 22.86 cms.	
16.	Instrument Steriliser .. .		1
17.	Dressing Trays with Cover	26 67 x 7 78 cms	4
18.	Jars dressing covers .		2
19.	Stainless steel katories ..		4
20.	Kidney Trays	Big size	4
21.	Guindies (wash basin)	18	2
22.	Planocian Powder .. .		1 Gms
23.	Distilled Water		lb.
24.	Tr. Benzoine		lb.
25.	Savlon		lb.
26.	Methylated Spirit .		lb.
27.	Dettol		lb.
28.	Cotton		lb.
29.	Gauzes		lbs.
30.	Sticking Plaster .		roll
31.	Inj. Coramine		6 Amps
32.	Inj. Adrenaline Chloride ..		6 Amps.
33.	Inj. Atropine Sulphate		6 Amps.
34.	Inj. Glucose 25% 25 ccs. ..		6 Amps.
35.	Inj. Pro. Penicillin	4 Lacs Units	50 Vials
36.	Sulphadiazine Tablets		900 Tabs.
37.	A. P. C. Tablets		150 Tabs.
38.	Stimulant Mixture	Freshly prepared	8 Doz.
39.	Plastic Sheets .		4
40.	Aprons		

Serial No.	Name of Article	Size	Quantity
41.	Masks		12
42.	Scrotal Towels	(3' x 4' with a central slit of 4" length—0" below one margin)	50
43.	White thread for ligating vas.	No. 40 or 50	1 reel
44.	White thread for ligating vas.	No. 100 for suturing the skin	2
45.	Buckets		2
46.	Nail Brushes		2
47.	Soap case with Carbolic soap ..		2
48.	Brass Pimps		2
49.	Hand Towels		2
50.	Three-Burner Stove .. .		1
51.	One-Burner Stove		1
52.	Petromaxes		2
53.	Kerosene		4 gallons
54.	Tables for operation		2 to 4
55.	Screens		2
56.	One big carpet (to take rest for post-operative cases)		1 if available

APPENDIX B

Instruments to be supplied to selected medical officers

1.	Alices Forceps	6"	4 Nos.
2.	Mosquito Artery Forceps	(Curved)	4
3.	Mosquito Artery Forceps	(Straight)	4
4.	Scissors Surgical		2
5.	Knife Handles		2
6.	Dissecting Forceps		2
7.	Syringes 10 cc.		2
8.	Hypodermic Needles		6
9.	Suturing Needles (curved)		3
10.	Suturing Needles (straight)		3
11.	Pressure Cooker (Domestic)		1
12.	Surgical Blades		3 dozen
13.	Cotton, Gauze, Dettol, Tr. Benzoin, etc., is to be supplied as on required basis		

Other things required are usually available in the Dispensary or Primary Health Centre.

EDUCATION FOR FAMILY LIVING*

SHRI A. GOVINDACHARI

(Social Scientist, Pilot Health Project, Gandhigram, Madurai)

1. Introduction :

We are all aware that the scope of family life education is a very wide one encompassing within its ambit varied subjects such as teaching on sex and reproduction, parent craft, home making, ethics of family life etc. It is practically impossible for any individual of a particular discipline in the social sciences to dwell at length on the details of the entire gamut of family life education, since it requires a multi-disciplinary approach where specialists like medical personnel, behavioural scientists, health educators, educationists, social workers etc., all have their role to play in making a comprehensive programme of family life education.

2. Concept of Family Life Education as relevant to family planning practices :

We are all aware that our birth rate has to come down to at least 25 per mille to avoid the imminent dangers of a population explosion. To this end at least 90% of the married couples have to be physically, socially and psychologically reached so that they may accept, adopt and continue to practise some form of contraception to limit their family size. How are we going to achieve this? What are the channels of communication which may help us to effectively reach the above-said goal? What is the method and type of group support that may be needed since we all know that for effecting any change in an individual or a society, the social norms have to be taken into consideration? In this discussion an attempt is being made to look at an average rural family as a Unit and find out how the couple can be educationally reached. Also what should be the content of the education, how and what methods of education should be used and through whom it should be done are all suggested, based on our limited experiences.

3. Rural family as a unit :

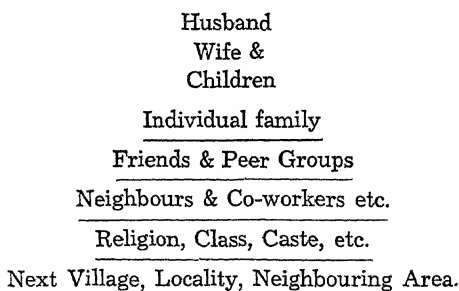
India is a country of heterogeneous culture. The way of life of the people varies from state to state and even within a state from region to region. Sociologists feel that our joint family system is in a cauldron. In

* Paper presented at 5th All India Conference on Family Planning, Patna. 18th to 22nd January 1964.

various parts of the country there are descriptions of kinship groups and neighbourhood groups. Basically, underlying all these, is the unit family, which for the purposes of this paper, I will define as the husband, wife, and their children. In a rural set-up, if I may say so, in any part of our country, this family unit is governed by many factors which influence it. The way these influences have their impact may depend on the family system, whether it is a joint family or not etc. But every family is being continuously influenced by many factors in its day to day life and these influences are important for any programme of Family Life Education. Now let us take a family unit and examine what are all the factors which influence it in its day to day life. Since day to day life is governed by a series of decisions to be made, some of them minor, some major, some of immediate nature and impact, and some of a long range nature and since the unit family is influenced by extraneous factors in making such decisions, let us also look at this "decision-making apparatus".

4. Factors influencing the Unit Family in rural areas :

In the following diagram the unit family forms the apex and each lower line depicts one factor which is always having an impact on the unit family in decision-making of some nature or other. Some of these forces may have more value than others in influencing the decision of the family unit, but one, or many, or all of them, are constantly operating and any educational programme must take them into consideration if it has to have any effect on the Unit Family.



Now let us analyse these factors a little more in detail.

The immediate family group like the father, mother, aunt, uncle, brother or sister are the people who form the image for male or female child. Their habits, beliefs, attitudes etc. influence an individual in the

developing years in the formation of his "personality". His way of life including his relations with his wife and children, and above all, the all important "family size" attitude will be based on this. So we may have to include that immediate family group in our target population for education and reach them. Even after marriage, the influence of the immediate family and their attitudes will have an effect in the matter of "decision making" regarding the visit of Family Planning workers, going to a Family Planning clinic, use of contraception for limiting the family etc.

Next in the order of importance are friends and peer groups. Their attitude will help in setting the "*fashion*" for the unit family and it is also an important factor in giving "group support".

In villages, especially, the way of life is very much influenced by what the neighbours do and approve as well as what others of the same profession, like farmers etc., do and approve. In this regard, the phenomenon of "identification" especially with "village leaders" is important. In our villages we have noticed that such identification figures (village leaders) need not necessarily be elders. In many cases they are young men and women who are looked upon by others in the village as "fashion-setters" or "pace-makers". The approach through these groups can influence the other factors like the immediate family and friends and peer groups also. Educationally, this group is important for initial motivation, continued group support and also as a "change agent" not only for our susceptible population, namely the married couple in child-bearing age, but also for the older decision-makers in a family. To give one example of how this "identification group" worked, we noticed in one instance how a very popular and influential young man in a village was able to work not only with persons of his own age but also with their in-laws (father, father-in-law, mother, mother-in-law) and get their approval and sanction for limiting the family size by the use of contraception by friends of his own age.

5. Educational aspects of family life :

At the earliest, Family Life Education starts for an individual at about the age of three years when he or she is a toddler. The attitude and belief of the parents are the points of identification of the child and at this stage a small family and the parents' appreciation and contentment of the same will reflect on the future views of the children.

In school, teachers and others could help in Family Life Education by indirectly emphasising the benefits of a small family and the need for properly and adequately attending to one's family life.

At least as far as our country is concerned, we are probably culturally not orientated to the type of family life education which is being attempted in other countries for the school-age children. Nevertheless, it is necessary that we should not wait for our children to learn by themselves, sometimes the wrong way even, about the healthy sex behaviour of individuals. Some consideration might be given at the high school age to teaching the boys and girls something about the anatomy and physiology of reproduction and also giving them a few lessons on social hygiene.

From the point of view of family planning at least for the present, our emphasis should be on educating the married couples on the advantages of having a small family by any method of contraception. Our target population for this educational approach can be mainly the younger couples. At the same time we should not lose sight of the possibilities of education of the other susceptible population in the age group of 15-45 who are married.

For adult education in this regard, in the Project area, we have found that the best method is through the leadership programme which aims at a two-step education through influential and interested leaders in a village. In a subject like family planning, mass media are of very little value in creating awareness of the problem and of the need for family planning.

PROGRAMME PLANNING, TRAINING AND LOCAL DISTRIBUTION OF SUPPLIES FROM THE STATE TO THE VILLAGE LEVEL*

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I am very happy to note that this Conference has taken as its theme "Birth Rate Reduction: the Key to National Development." The Government of India have also undertaken to reduce the birth rate in India by 50% as expeditiously as possible. They have recently ordered for the reorganisation of the Family Planning Programme in the entire country.

Now let us see how the programme could be planned to achieve this object, how the training programme has to be organised and the arrangements to be made to distribute the contraceptives from the State to the village level.

According to the programme of the Government of India for motivating the people in the rural areas to accept family planning, they have suggested a certain staffing pattern in the Community Development Block and also in the urban areas.

According to the Five Year Plan Programme it is contemplated that by the end of the Third Five Year Plan, the entire country should be covered by Community Development Blocks and every Block should have a Primary Health Centre.

The Government of India have decided to have Family Welfare Planning Centres attached to each Primary Health Centre in the Block, and in areas where the PHC is not yet sanctioned, to attach the staff to the dispensary in the Block.

These Family Welfare Planning Units both in the urban and rural areas may be run by the Voluntary Organisations, Social Welfare Board or by the Government. While planning, it is essential to see that there is no overlapping of the work of the various Units and their workers.

To achieve this objective, it is necessary to have a District map showing the area covered by the Community Development Block clearly

* Paper presented at 5th All India Conference on Family Planning, Patna, 18th to 22nd January 1964.

demarcated, the headquarters of the Primary Health Centre, the places where the Dispensaries, Hospitals and M.C.H. centres are situated, and the places where the Family Welfare Planning Centres are located.

Apart from this there should be a separate map for each C. D. Block and for each urban area where Family Welfare Planning Centres have been started. In these maps, the area allocated for each category of worker, should be marked, so as to avoid overlapping of the family planning work.

While fixing the area for each member of the staff, one should take into consideration, the terrain, the accessibility of villages, the density of population and the sex of the worker. In a hilly country, the population will be sparse and scattered whereas in a plain country the population will be concentrated in villages. In the plains each village may have a population of anywhere between 500 to 8000 whereas in a hilly area the population of each village may be as little as 25 to 200. Since the houses are scattered in a hilly area, to cover an entire village one may have to walk 5-8 miles. In the map the villages may look close to each other. But actually to approach a village one may have to take a circuitous route. A female worker will not be able to walk as much as a male worker. In the Primary Health Centre, it has been observed that an Auxiliary Nurse-Midwife cannot walk more than 6-7 miles in a day, and a male worker cannot cover more than 8-10 miles if he has to walk. There are no facilities for these field workers to camp in villages.

According to the schemes drawn up by the Government of India, it is proposed to give a population of 10,000 for an Auxiliary Nurse-Midwife. In practice it has been observed that an Auxiliary Nurse-Midwife could work with efficiency only with a population of 5,000 to 6,000 in a flat country and 3,000 population in a hilly country. The Auxiliary Nurse-Midwife could conduct 120-150 deliveries in a year in addition to paying periodical visits to the prenatals and post-natals. Normally she cannot conduct all the deliveries in the area due to various factors and only 60 to 70 per cent of the total deliveries can be conducted by an efficient A.N.M. so there is no point in giving her a population of 10,000, since she will not be able to cover that population on account of walking distance and because she will not be able to pay reasonable attention to the prenatals and post-natals.

As the Government of India have provided an A.N.M. for a population of 10,000, and as the A.N.M. can only cover a population of 5,000 to 6,000, the area which is not covered by her, will have to be looked

after by a trained dai. But her work should be well supervised by the Health Visitor. Then the family planning work could be done by this staff efficiently in addition to their routine M.C.H. work. The A.N.M., trained Dai and the Health Visitor will be able to contact the eligible women in the area periodically and advise them on family planning.

The eligible male members of the community will have to be contacted by the male field workers. A male field worker is given 30,000 population. But in difficult terrain, the population may have to be reduced according to the area. The area not covered by the Field Worker, will have to be covered by the Health Inspector of the Block. These Field Workers will have a fixed advance programme. The area given to the field worker has to be divided into 12 Blocks, each block having a population of anywhere between 1,500 to 2,500. The programme will be as follows :

<i>Days of Week</i>	<i>1st Week.</i>	<i>2nd Week</i>
Monday	Block 1	Block 2
Tuesday	Block 3	Block 4
Wednesday	Block 5	Block 6
Thursday	Block 7	Block 8
Friday	Block 9	Block 10
Saturday	Block 11	Block 12

The object of the fixed advance programme is so that the people in a village can expect the Field Worker on a fixed day and so that they can wait for him. Moreover, it will help the inspecting officer to check the work of the Field Worker. If a particular day happens to be a general holiday then the Field Worker will not pay a visit to the Block during that fortnight. Knowing the general holidays in a year, it is possible to put up an advance programme for a year, as has been shown in the enclosed statement.

Every Field Worker (male or female) should be provided with a kit bag containing the following materials :

1. Diary.
2. Family Planning In-take Register.
3. A stock of various types of contraceptives.
4. Flip charts.
5. Pamphlets and booklets on family planning.
6. Test-tube.

An A.N.M. in addition to the above will have to carry a Midwifery kit.

I feel that it will be better to leave the choice of the bag to the Field Worker, instead of having a uniform pattern, so that the Field Worker could carry it with a certain amount of pride instead of having a stigma that he is a family planning worker. A monetary ceiling will have to be fixed however, towards the cost of the bag, so that money is not wasted on very costly material.

To have a good check on the work of the Field Worker, it is necessary that he or she should maintain a simple diary showing the actual work done. It is useful to have columns in the diary as follows :—

DATE OF VISIT BLOCK : NAME OF VILLAGE
OR STREET VISITED

Serial No.	House No	Names of couples contacted	Ages	No. of living children		Result of the visit
				Male	Female	

On the 1st page of the diary should be pasted :—

1. A map of the area allotted, showing the twelve blocks, their numbers, with the population of each village or Municipal area.
2. A statement showing the blocks, the population, the area included in the Block, and the walking distance from the Headquarters.
3. Annual fixed advance programme.

The dates for the monthly returns will have to be collected from this diary and not figured out from memory.

Every couple that has accepted a family planning method will be registered in the Family Planning In-take Register. The columns in the In-take Register will be as follows :—

Left hand side pages

NEW CASES

Names of couples with full postal address	Ages	No of living children	Income per month	By whom registered	Date of Registration	Method given	Husband or wife con- tacted	Cost re- covered if any
		M	F.					

Right hand side pages

FOLLOW-UP

Date	Contra- ceptives given	Date	Contra- ceptives given	Date	Contra- ceptives given	Date	Contra- ceptives given	Remarks
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Every couple that has been registered in this book is known by a number. The number is marked both on the case containing the contraceptives and also on a cardboard piece. By referring to the number, it will be easy to trace the name in the In-take Register and follow up the cases.

The Serial No. of people who have dropped out temporarily or permanently, should be rounded off in red-ink and the reasons why they are not being followed up should be noted in the columns meant for follow-up. It may be due to :

- (i) transfer of the party,
- (ii) shifting from that village to some other village,
- (iii) the person getting sterilised,
- (iv) pregnancy—either due to
 - (a) failure of the method,
 - (b) irregular use of the method,
- (v) refusal to follow up the method.

When all the columns meant for follow-up are filled in, then in the remarks column it will be noted that a case card has been opened and the case will be followed-up in the case card. The case card will have the same number as in the In-take Register.

The field worker in his In-take Register not only enters the cases registered by him/her, but also notes the names of cases registered by the (a) private practitioner (medical), and (b) Pariwar Kalyan Sahayaks or Sahayakis. The couples registered by the Sahayakis is taken into the register of the A.N.M. concerned and that of a Sahayaka by the male Field Worker concerned.

By maintaining an In-take Register, it will be possible to know at a glance as to how many cases are regularly following the contraceptive methods, and it will be possible to follow up the cases. If the cases are not regularly followed-up then the Family Planning Programme will be a failure,

Targets will have to be fixed for each Field Worker for registering new cases and for follow-up. Each A.N.M. will have to register 10 new cases per month and each male field worker 30 new cases per month. At least 80% of the cases registered will have to be followed up. Very often the Field Workers (both male and female) register new cases, but neglect follow-up cases completely.

So when the field worker goes to an area, the follow-up of cases must be seen to first, before motivating fresh cases for accepting family planning. The Extension Educator in the Block will have to help in motivating the people to accept family planning.

At the Primary Health Centre, once a month, there will be a conference of all the staff to review the work done by every member of the staff, to find out the field difficulties, to exchange ideas and to co-ordinate the work of the various members of the staff. The staff will have to bring with them their monthly reports and the In-take Register. While reviewing the work, it will have to be seen why the targets have not been achieved by a particular worker and if there are difficulties in motivating the people to accept family planning in a particular area, the Extension Educator or the doctor will have to visit the area frequently to help the worker in the field.

For efficient carrying out of the programme, it is essential that every member knows what he has to do and how he has to go about it to achieve the objective. For this every member should get proper training. It should be emphasised that while giving training, some of the important aspects are stressed and field visits are arranged under proper supervision. The persons giving the training should themselves be trained properly, so that they know what to teach.

For Parivar Kalyan Sahayaks and Sahayakis, a three-day training course close to the place where they live has been found to be quite adequate in an experiment tried in Bangalore District.

A week's in-service training in family planning for A.N.Ms, Midwives, PHNs, Health Visitors and Health Inspectors has been found to be adequate. But for Field Workers, more intensive training has to be given in Extension Education. For two months they will have to visit homes along with well-trained Family Planning Extension Educators so that they learn the extension methods properly. The training could be given to these workers at the District Headquarters.

For the Medical Officers, family planning training for a fortnight at the Regional Family Planning Training Centre, including training in

the technique of performing the vasectomy operation will be helpful. For those who are in charge of the Training Programme, more intensive training will have to be given at the State level, by experts in the field.

Programme planning, how to write the diary, fill up the various records and send the monthly returns, will have to be taught to all these workers properly. A manual of family planning will have to be prepared, giving the duties and responsibilities of every worker, the various records to be maintained, the form in which these records have to be maintained, the contraceptive methods, the methods of distribution etc. In short, it should contain all the information required for a field worker to do his day-to-day work, just like the Malaria Manual. Each Family Planning Unit will have a Family Planning Manual to guide the workers from time to time.

For the success of the Family Planning Programme, the smooth flow of contraceptives to the field, and to ensure that these contraceptives do not find their way into the shops is very essential. The selling of these contraceptives could be prevented to a great extent by proper supervision. By registering the couples in the In-take Register, one could avoid duplication of names by the various family planning workers, and at the same time one could know the number of contraceptives given to a couple.

Simple records will have to be maintained by the different categories of Field Workers entrusted with the work of distributing the contraceptives, as to the quantity received and the amount spent.

At the monthly conference at the beginning of each month every family planning field worker (male and female) will submit a report to the Medical Officer of Health of the Primary Health Centre in the following form :

Report for the month of _____
for the family planning work done by

Serial No.	Types of contraceptive	Stock at the beginning of month	During the month		Balance at the end of month	New cases registered	Follow-up cases	Cost recovered if any
			Receipt	Expenditure				

The male Field Worker and the Auxiliary Nurse Midwife, while submitting the report as to the requirement of the contraceptives, will take into consideration the quantity required for distribution to the

Parivar Kalyan Sahayaks, Sahayakis and the Private Medical Practitioners in their respective areas.

The reports from every Family Welfare Planning Centre in a Community Development Block and the reports from the Urban Centres will be sent to the District Family Planning Bureau and to the State Family Planning Bureau. By this the State Family Planning Bureau will be able to keep track of the work done at every Family Welfare Planning Centre in the State and at the same time will be able to know the stock position of the contraceptives.

At the District Family Planning Bureau, a master chart will be maintained to study the off-take of the contraceptives at every centre. On the basis of this, the District Family Planning Bureau will be in a position to place an indent for the supply of contraceptives to the State Family Planning Bureau once a quarter.

Serial No	Type of contraceptive	Stock on hand	Off-take	Quantity required
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On the basis of these indents, the State Family Planning Bureau will arrange for the supply of the contraceptives to the various Districts after keeping in view the rate of the off-take and the stock on hand in each District.

By this it is possible to prevent unnecessary accumulation of the contraceptives in the Districts. Both at the District level and the State level one should be vigilant and plan well in advance about the requirement, taking into consideration the difficulty in getting some of the contraceptives which have to be imported.

The same procedure will have to be adopted for the supply of the literature—booklets, pamphlets and posters on family planning—and for the drugs and equipment required for vasectomy operations.

THE FAMILY PLANNING ASSOCIATION OF INDIA

Report from January 1961 to December 1963

(As passed by the Central Executive Committee)

During the period under review the outstanding event to be reported is the unanimous election of Smt. Dhanvanthi Rama Rau as President of the International Planned Parenthood Federation at the Seventh International Conference on Planned Parenthood at Singapore in February 1963 in succession to two distinguished predecessors, Mrs. Ottesen Jensen (Sweden), and before her, Mrs. Margaret Sanger (USA) who is President Emeritus of the Federation. Members of the Family Planning Association of India in particular, and family planning workers not only in India but many other countries, are very proud of this distinction which has come to Smt. Dhanvanthi Rama Rau and which, we may add, is so richly merited. We congratulate her and wish her a long and fruitful career in the international field.

On her election as IPPF President, Smt. Dhanvanthi Rama Rau relinquished her Presidentship of the Family Planning Association of India following an established convention; very naturally her mantle fell on Smt. Avabai B. Wadia who had worked in close and intimate co-operation with her from the time the Association was started, in order to build it up to its present position and strength. Smt. Wadia's unanimous election as the new President has ensured a continuity which provides, at the same time, a forward-looking, energetic drive to get ahead with the great tasks confronting the Association, and the family planning programme in India.

We record our deep debt of gratitude and sincere thanks to Smt. Dhanvanthi Rama Rau for her fine leadership for fourteen years as President of the FPAI. We know that her advice and guidance are still available to us and that her connection with the FPAI will continue to be close. We also record our great satisfaction and pleasure at having her close colleague Smt. Avabai B. Wadia, as the new FPAI President, and are confident that the Association will progress greatly under her experienced and thoughtful guidance.

Co-ordination with Government

The Family Planning Association of India has now completed fourteen years of steady and strenuous effort in spreading the knowledge and practice of family planning through a broad-based programme

covering clinical services, education, training, co-operation in research, and developing international contacts.

Since the First Five Year Plan (1951-1955), the Government of India has taken up the responsibility of promoting family planning as part of the Health Services in the country and from that time voluntary activities are being conducted in co-ordination with governmental programmes. As the national voluntary organisation in the field of family planning, the FPAI has been closely linked with the programme of the Central and State Governments. The President and various other members of the Association have been appointed on several Government bodies including the Family Planning Advisory Boards at the Centre and in the States. Many of the Honorary Family Planning Education Leaders appointed by the Government of India are also drawn from its membership.

The Government of India has now appointed a Family Planning Programme Evaluation and Planning Committee, with nine Groups under it, to assess the progress made so far under the Third Five Year Plan, and to make recommendations for the Fourth Plan. Smt. Dhanvanthi Rama Rau has been appointed a Vice-Chairman and Smt. Avabai B. Wadia a member of this Committee.

Government grants-in-aid are being received by the Headquarters and the Branches of the Association. Such grants have amounted to a total of nearly Rs. 10 lakhs for 1963-1964, making it possible for the Association to expand its activities steadily.

When the national Emergency suddenly supervened at the end of 1962, some of the Branches collected and gave donations to the National Defence Fund. At Headquarters a sum of Rs. 2,538/- was collected in addition to the Rs. 800/- collected by the Bombay Branch, and sent to the Citizens' Defence Committee.

HEADQUARTERS ACTIVITIES

Educational Propaganda

Educational work for making people aware of family planning and motivating them to adopt it, is one of the most important aspects of the Association's work. At Headquarters, voluntary members have been doing a considerable amount of writing, speaking and broadcasting on the subject. In the Headquarters' clinics, the health visitors have been concentrating on making home visits and speaking at group meetings arranged in the course of their work. In addition, a trained social worker, Mrs. Pramila Thakore, B.A., has been appointed on a full-time basis to carry out an educational programme of meetings, lectures, film

shows etc. for audiences drawn mainly from the lower income groups. During 1961, 165 such meetings with an approximate attendance of 30,220 people, were held by the social worker alone. In 1962, the number of meetings rose to 349 with a total attendance of nearly 73,615 persons, thanks mainly to the availability of the Mobile Unit. During 1963, 482 meetings were held which included public meetings, women's meetings, men's meetings and "supply sessions", and the total attendance was about 1,10,550.

The Mobile Unit

The Headquarters has been generously presented by the IPPF with a Mobile Clinic and Education Unit, the Van having been shipped to Bombay from the USA, and extensive work has been undertaken since the Unit was put into operation from August 1962. The running expenses for the Unit are met out of a grant given by the Government for the purpose. The FPAI Social Worker is in charge of the Unit and the driver-cum-projectionist and the cleaner who are attached to the Van are also gradually being trained to take some part in the educational work. The Unit has so far covered about 120 areas including 13 villages beyond Greater Bombay, and in Thana District. The population of the villages covered ranges between 250 and 5,000 and is comprised mainly of agricultural workers, fisherfolk, factory workers, housewives, petty businessmen, white collar workers and others.

From December 1962 to December 1963, the Mobile Unit has registered 570 family planning cases giving them simple contraceptive methods, and case cards are maintained for all of them. Where patients have shown a desire to try the diaphragm and jelly method, the FPAI doctor has held a clinic in the Van for examining and fitting them. However, patients usually prefer the simple methods.

For the first time, in December 1963, vasectomy operations were undertaken in the Van itself when Dr. G. M. Phadke, Honorary Director of the Family Welfare Bureau of the FPAI, operated on five persons prepared by the Social Worker.

The Grandmothers' Project

The Headquarters has initiated a new experimental project (with a special grant from the IPPF) aimed at ascertaining some of the effective ways of spreading family planning knowledge and making contraceptive supplies easily available to married couples in the rural areas, on a non-clinical basis. The basic idea underlying the project is self-help and mutual aid, and therefore, selected individuals from among the local women are to be utilised to disseminate family planning ideas

among their neighbours and to distribute simple contraceptives to couples who request them.

Since tradition and cultural patterns lay considerable emphasis on the dignity and wisdom of age, especially in the rural areas where joint family living is still widespread, one "grandmother" (that is, a married woman with a fairly grown family, not necessarily with grandchildren as yet, but who is a popular person of standing, with an intelligent, and mature outlook) has been selected from each of 10 villages, for giving information on simple methods of family planning and providing contraceptive supplies to married couples in her area. A trained Social Worker is to supervise and guide the work of the Grandmothers and maintain detailed records for each village, for the Grandmothers need not necessarily be literate women.

Ten villages in the Nasik District have been selected for this project. This is a project of the FPAI Headquarters, but the newly-formed Nasik Branch has been enrolled to undertake its day-to-day management. The Association, with the co-operation of the Maharashtra State Family Planning Officer, Dr. K. T. Chitre, and his associates, held an eight-day training camp in October 1963 in one of the villages, when the selected Grandmothers were given training in family planning. The project will go into action as soon as a preliminary survey of the ten selected villages is completed as that would provide the basis for evaluating the progress made under the project. It is planned to extend this work to a group of "Grandfathers" also as soon as possible.

Touring Team

The work of the FPAI Touring Training Team (consisting of a Medical Officer and a Social Worker) was continued for a part of the period under review, under the direction of the Headquarters. Short, on-the-spot training courses for doctors, health visitors and social workers were conducted by the Team in different parts of the country, often at the request of other welfare organisations or institutions. During 1960-1961, the Team visited Miraj, Indore, several places in Bihar State, Yeotmal, Nasik, Surat, Jorhat, Calcutta, Darjeeling and Ernakulam. This training programme has now been discontinued as training needs are being largely met by the Central and Regional Training Centres established by the Government for the purpose.

Local Seminars, Meetings, and Symposia

Several local seminars, meetings and symposia were arranged by the Headquarters during the period under review and a few of them are reported on below.

A two-day Seminar on Surgical Methods of Birth Control was held in Bombay in January 1962. Apart from the 96 participants connected with sterilisation programmes and representing Hospitals, Training and Research Centres, the Maharashtra State Government and the Indian Navy, over 50 observers from among those connected with family planning work attended the Seminar. Dr. Alan F. Guttmacher, of the Mount Sinai Hospital and Director of the Margaret Sanger Research Bureau, New York, and Dr. C. P. Blacker, Chairman of the Simon Population Trust, U.K., were the two guests from abroad. The medical, eugenic and psychological aspects of sterilisation were discussed in detail by the participating experts, and there was also a lively exchange of views on the social, economic and organisational aspects of the sterilisation programme.

A very well-attended meeting was held to felicitate Smt. Dhanvanthi Rama Rau on her election as the President of the IPPF, and as a part of it a Forum on Family Planning was held in Bombay in April 1963. The FPAI organised the meeting which was co-sponsored by the Maharashtra State Family Planning Board, the Indian Medical Association, the Demographic Training and Research Centre, the Family Planning Training and Research Centre and the Indian Society for the Study of Reproduction. Smt. Vijayalakshmi Pandit, Governor of Maharashtra, presided over the function, Smt. Wadia welcomed the guests, Shri M. D. Chaudhari, Maharashtra State Health Minister spoke, and there were several other eminent speakers, at this very successful function.

A full-day Family Planning Seminar was held at Ulhasnagar (near Kalyan) on the 16th June 1963 with the co-operation of the Ulhasnagar Welfare Association. Among its 150 participants were labour welfare officers, medical officers of factories and hospitals, lawyers, engineers, sanitary inspectors, school principals and teachers, municipal councillors, representatives of welfare organisations and other local leaders.

Another local Seminar with the co-operation of the Vivekanand Social Circle, Bombay, was held on the 15th September 1963, which was attended by residents of the housing colony and others numbering over 125 persons.

A Symposium on Marriage, Sex, and Family Life was held under the joint auspices of the Bombay Hospital, the Indian Medical Association, the Bombay Social Hygiene Council and the Family Planning Association of India on the 26th July 1963 at the Birla Matushri Sabhagar in Bombay. The Maharashtra Health Minister, Shri M. D. Chaudhari, presided and Smt. Wadia was the speaker for the FPAI. There

was a packed audience of about 800 people consisting almost entirely of medical men and women, with a sprinkling of social workers.

All India Conference and Seminars

The Headquarters organises periodic All India Conferences to bring together official and non-official workers to promote the rapid and effective implementation of the family planning programme in the country. Four such conferences have been held so far (Bombay, 1951; Lucknow, 1955; Calcutta, 1957; and Hyderabad, 1961), the present one at Patna being the fifth in the series. No Conference could be held in 1962 and as originally scheduled due to the Emergency. Family Planning Exhibitions have been held every time in conjunction with the Conference and have been organised on several other occasions also.

A Seminar on the Physiology of Reproduction was held at the scientific section of the Hyderabad Conference. Two very distinguished scientists, Professor A. S. Parkes (U.K.) and Dr. V. R. Khanolkar, Director of the Indian Cancer Research Centre, led the Seminar. Scientists from many parts of India came specially for it and helped to make it a great success, for which Dr. (Mrs.) Shanta S. Rao of the Contraceptive Testing Unit, ICRC, Bombay, and Dr. P. M. Bhargava of the Regional Research Laboratories, Hyderabad, as the Jt. Hon. Convenors, worked very hard. As an outcome of this event, the Indian Society for the Study of Reproduction has come into existence.

In February 1963, an International Seminar on the Physiology of Reproduction was held in Bombay with the FPAI as a co-sponsor along with the Indian Society for the Study of Reproduction and the Indian Council of Medical Research. Over 40 scientists, including several foreign participants from among those who had attended the International Conference in Singapore, presented papers at the six sessions of the Seminar covering a wide range of topics. Dr. Shirodkar presided at the Inauguration, Smt. Wadia gave the welcome speech and Dr. Khanolkar inaugurated the Seminar.

Clinical Services

The Headquarters continues to run its full-time family planning clinic, the Kutumb Sudhar Kendra, under Dr. (Mrs) S. Shrikhande, at Bombay Central with three sub-branches at Worli, Delisle Road, and Kurla. The clinic at Ulhasnagar (Kalyan Refugee Camp) and a fortnightly clinic at Badlapur village are also continuing under Dr. (Miss) L. R. Bankal. Four part-time clinics for three different industrial and business concerns are also conducted by the Association. Upto Novem-

ber 1963, the progress report for the Kendra group of clinics shows that 45,909 persons were covered in the educational work and the number of active cases following family planning methods is 6,447, out of the 7,505 who were given advice. The Ulhasnagar Clinic has covered 17,615 persons and of the 1,396 persons who were given advice, 557 have been regularly following some method. The Badlapur village clinic registered 105 active cases out of the 285 cases advised and the total number contacted for family planning education was 9,836.

Since the Kutumb Sudhar Kendra was established at the end of 1952, many clinics have been established in Bombay City and in the educational work carried out by the FPAI personnel, information is given to would-be patients as to the clinic nearest to them.

Co-operating in Research

One important event was the launching of a Research Project under the direction of Dr. C. Chandrasekaran, Director of the Demographic Training and Research Centre, Bombay, which has come to be known as the Bombay Birth Study. Dr. Chandrasekaran invited the FPAI to co-operate in this Study which it did by lending the services of its Technical Medical Consultant, Dr. Katherine Kuder, to assist in the Study. Dr. Kuder has made an outstanding contribution to the Study which has revealed many valuable facts concerning clinical work for family planning in Bombay City.

It may be mentioned here that as the Study was nearing completion, Dr. Kuder joined the Ford Foundation as Family Planning Consultant and had to give up her official position with the FPAI, but happily, she and the FPAI maintain close links.

The Family Welfare Bureau of the FPAI has continued to meet the need for investigation and treatment of infertility and sub-fertility cases. From January 1961 to November 1963, the total attendance at the Bureau was 41,827. Cases registered for treatment during this period numbered 1,866. Of the registered cases, 741 couples were thoroughly investigated; 969 couples discontinued because on investigation the prognosis was found to be hopeless for them, or for reasons of their own; and 176 couples are under investigation. During the period under review, 297 pregnancies were reported.

The Bureau's operational work included 149 major and 720 minor operations. Where the facilities available at the Bureau were found inadequate for providing the treatment and care required by the cases, they were referred to hospitals.

Vasectomy operations are conducted once a week at the Bureau and numbered 219 for the period under review.

Besides the above clinical and surgical work, the Bureau has also undertaken studies on "Genital Tuberculosis", "Action of Anovlar Tablets in Cases of Functional Sterility", "Chemical Method for the Detection of the Day of Ovulation in Women by Urine Examination", "Occurrence of Macrophage Cells in the Semen", "Presence of Autoantibodies Against Spermatozoa", "Human Menopausal Gonadotropins of Spermatogenic Arrest", "Effect of Testosterone" and "Effect of Varicocele Excision." These studies are now in progress and their results are awaited with interest.

Marriage guidance work and treatment of psycho-sexual disorders have just been undertaken. Of the 31 male patients with psycho-sexual problems, 27 were successfully treated.

Dr. A. M. Phadke, Medical Officer-in-Charge of the Bureau, in recognition of his very promising research study at the Bureau, has been awarded a Worcester Foundation Fellowship for research in the Physiology of Reproduction, and is now working at the Worcester Foundation, Massachusetts, U.S.A.

Supplies Department

The Supplies Department at Headquarters is continuing under the most able supervision of Smt. Gulab Dalal, a member of the All India Council, with the help of a small staff, and serves the need of welfare clinics in various parts of the country who do not have handy sources of supply. Contraceptives listed in the Approved List of Government are supplied to them at clinical rates, according to the orders placed. Supplies worth Rs. 43,658/- were sold in 1961, Rs. 61,075 in 1962, and Rs. 27,744 from April to December 1963.

Publications

The *Journal of Family Welfare*, published every quarter by Headquarters, is now in its tenth year and has received appreciative notices from several knowledgeable sources. The monthly Bulletin, *Planned Parenthood*, also published by the Headquarters, is in its eleventh year, and all members of the FPAI receive the Bulletin free of charge by virtue of membership. Both the publications are sent to family planning workers all over India and the mailing list includes 56 foreign countries. During all these years the entire editorial work of these publications as well as of Reports etc. has been carried out by Smt. Wadia in addition to her heavy duties as Honorary General Secretary.

However, it has now become possible to create the post of an Executive Editor and Miss Roda Marshall, M.A. (Bom.), has been appointed to it.

Reports of the Association's Conferences and articles about the Association's work have also been published on appropriate occasions.

Films

A 16 mm. one-reel documentary entitled "Message to the Masses" in colour, with English sub-titles, was produced by the Headquarters in January 1963, to give a graphic idea of the work done by the Mobile Clinic and Education Unit, to the participants at the Seventh International Conference on Planned Parenthood at Singapore. In November 1963, a small section of this documentary was used in a Television programme of the B.B.C. in London, called "The Future of Man."

Opening New Branches

The Headquarters has remained alert to the necessity to create an interest in family planning work among other organisations and groups, and wherever locally desired, to set up new Branches of its own. Guidance is given to any organisation that requests it and to the Branches as to how to set up their programme of work and obtain grants. The number of Branches of the FPAI has been steadily increasing and there are now 30 Branches.

Visits to Branches have been paid both by Smt. Dhanvanthi Rama Rau and Smt. Wadia including Madras, Tiruchirapalli, Trivandrum, Ernakulam, Calcutta, Jabalpur, Indore, Delhi, Bangalore, Mysore and Vishakhapatnam, either jointly or singly.

Family Planning Day

Every year all the FPAI clinics observe Family Planning Day (18th December) by holding special meetings and film shows. Sweets and flowers are distributed to children and the women attending the function.

For the first time, three of the villages lying on the outskirts of Greater Bombay, observed the Family Planning Day when Mrs. P. Thakore of the FPAI Mobile Clinic and Education Unit arranged special functions in these villages. Small gifts were distributed to those women who were regular in using contraceptives. Some of the local residents were so pleased with these functions that they made them an occasion to donate useful articles to welfare organisations serving the villagers, and co-operating with the Mobile Unit. At one of these functions, slates were presented by a donor to 30 children.

Visitors to India

The Headquarters Office has had the pleasure of receiving many important visitors from abroad, who are engaged or interested in family planning work. It has been an important duty undertaken by the Office Bearers of the Association to give them a clear and comprehensive idea of the family planning programme in India, with suitable documentation. Among the distinguished visitors who came to the Headquarters were Mrs. Ottesen Jensen (Sweden), Mrs. Pearl Buck (USA), Mrs. Vera Houghton (U.K.), Prof. Mehlan (E. Germany), Dr. Sangad Plengvanij, Dr. Virach Makaduengkeo and Dr. Manasvi Unhanand from Thailand, Dr. Yong Wan Kim, Dr. Byung-Choo Bai, Mrs. Sun Hi Won and Mr. Soo Young Lee from Korea, Dr. George Douglas of the University of the Seven Seas, and many others.

International Work

The international contacts of the FPAI have been furthered by the Headquarters in various ways. As a member-organisation of the International Planned Parenthood Federation, the Association has become known in many countries of the world and letters are being constantly received in the Office requesting information, literature and statistics about family planning work in India. Answering these queries sometimes involves a great deal of labour, but it is amply rewarded by the appreciative manner in which our foreign friends regard the Indian programme for family planning, sometimes even sending unsolicited donations for the work. The 3-reel film, "In Your Hands", made by the Headquarters, with a grant from the IPPF has attracted favourable comment at home and abroad, and Family Planning Associations in Nairobi, Jamaica, Barbados, S. Africa, Mauritius, Fiji, Nepal, Pakistan, Ceylon, Singapore, Sweden and the U.S.A. have bought copies for their own educational work, in addition to the IPPF Headquarters in London. Similarly, copies of the filmstrip made by the Association have been sent abroad. Both the film and the filmstrip have now been taken over by the Government of India for distribution, the film being dubbed in Hindi and other regional languages. The Association is represented on the Governing Body of the IPPF by Smt. Avabai B. Wadia, Dr. V. N. Shirodkar, and Dr. G. M. Phadke. Smt. Dhanvanthi Rama Rau was Chairman of its Governing Body for many years until she became its President. The Indian Ocean Region as a whole has one representative on the Management and Planning Committee of the Federation. The Representative came from Ceylon and then from Pakistan, and now India has received its turn and Smt. Wadia is the Regional Representative for a period of two years.

The IPPF held its Seventh International Conference on Planned Parenthood at Singapore in February 1963, following on the Sixth one held at New Delhi in 1959. This Conference proved to be a great success and gave a big impetus to the work for family planning worldwide. A large Indian delegation of 22 persons attended the Conference including Col. B. L. Raina, Director, Family Planning, Government of India. Most of them read papers at the various sessions and all of them took part in the discussions, fully justifying the permission given by the Government of India to travel abroad although no foreign exchange could be made available to them.

In the Indian Ocean Region, the first Regional Conference was held in Dacca, East Pakistan, in January 1962, when Smt. Dhanvanthi Rama Rau, Smt. Mallika Ghosh, Dr. Shanta Rao and Dr. Marian Hall represented the FPAI. The Conference, which drew participants from the Regional countries and also Algeria, U.A.R., U.S.A. and U.K. was very successful.

The IOR held a Regional Meeting in Colombo, Ceylon, in September 1963 when two representatives from each of the four countries of the Region attended. Smt. Wadia and Smt. Gulab Dalal represented India and Dr. C. Chandrasekaran was specially invited by the Ceylon Family Planning Association to help set up statistical studies. Smt. Dhanvanthi Rama Rau also attended as President of the IPPF. The Ceylon Family Planning Association was celebrating its Tenth Anniversary and a three-day Seminar was a part of the celebrations at which all the visiting representatives spoke.

A Regional Medical Committee has been set up since September 1963, and Dr. V. N. Shirodkar, Dr. G. M. Phadke, and Dr. B. K. Anand are the FPAI Representatives on it. Dr. G. M. Phadke represented this Regional Committee at a meeting of the International Medical Committee held in London in October 1963.

A meeting of the Management and Planning Committee also was held in London at this time when the Regional Representative of the IOR attended. The IOR hopes to hold its Second Regional Conference in Khatmandu in 1964.

Smt. Dhanvanthi Rama Rau, as International President attended the World Food Congress and the Conference of the International Council of Women both held in Washington D.C., in June 1963. In September she attended the Indian Ocean Region meeting and Family Planning Seminar in Ceylon, and in October she travelled to Teheran (accompanied by Smt. Wadia) where they made contacts with family

planning and other social workers, and then Smt. Dhanvanthi Rama Rau went on to Israel to attend a Seminar on the Role of Voluntary Workers in Community Development Work and met family planning workers. She went to London thereafter for the Management and Planning Committee meeting of the IPPF. Smt. Dhanvanthi Rama Rau is travelling again to the U.K. and U.S.A. in January 1964 on IPPF assignments.

Headquarters Office

The above and other activities (including a great deal of correspondence) have been made possible thanks to a well-run office. The office staff has consisted of four office-secretaries headed by Miss Gool Kermani and four peon-cum-despatch clerks to deal with the heavy postings of publications and supplies parcels. Two well-qualified workers have been appointed recently namely, Miss Kamala Rao, L.L.B. (Bom.), Dip.S.S.A. (T.I.S.S.), as Executive Secretary, and Miss Roda Marshall, M.A., as Executive Editor, and will help to relieve some of the heavy load on the honorary workers.

Branches

The FPAI has now 30 Branches in different parts of India and four more Branches are likely to be formed shortly. All carry out their own family planning programmes including clinical services. Thus a total of at least 175 clinics are being run under the auspices of the FPAI. Some of the highlights of Branch work are given below.

Apart from the established clinics, the Branch at Bangalore held 68 clinical sessions at different places where regular family planning services were not available to the people. Ajmer, Delhi and Calcutta Branches operate Mobile Clinics for the benefit of the people in the outlying areas. The Agra Branch has a Vasectomy Van which meets the needs of the villagers for sterilisation. More and more FPAI Branches are now organising vasectomy camps. For instance, the Bhavnagar Branch has been responsible for 1,400 vasectomy operations during 1963 in the district, and the Punjab State Branch carried out 638 sterilisation operations during 1962. Other Branches have also provided for vasectomy in their clinical services. Infertility clinics are being maintained by the Vidarbha and South Kanara Branches and the latter Branch has investigated 276 couples so far. It is also running a Marriage Guidance Clinic.

Apart from the usual educational work of holding meetings, film shows, lectures and distributing family planning literature etc., Family Planning Orientation Camps were held by many Branches including

those in Ajmer, Andhra Pradesh, Delhi, South Kanara, the Punjab and Vidarbha. Seminars on Family Planning were also organised by the Andhra Pradesh, Delhi, Indore, Jabalpur, the Punjab and Vidarbha Branches. The Andhra Pradesh Branch held four family planning exhibitions in the State during 1963 and a special grant of Rs. 3,800 was sanctioned by the Central Government for this purpose. The Bhavnagar, Jabalpur, Vidarbha and the Mysore State Branches also held exhibitions which were well attended and appreciated. A two-day State Family Planning Conference also was organised by the Andhra Pradesh Branch in June 1962.

Training

The Andhra Pradesh Branch has set up a Training Centre for Family Welfare Workers at Hyderabad. It was inaugurated by the Union Health Minister, Dr. Sushila Nayar, in October 1962. This Centre was established with financial assistance received from the Government of India. A building to house the Centre was purchased by the Branch at a cost of Rs. 1,43,000. The Centre offers a one-year course of intensive training for family welfare workers, which will be recognised by the Central and State Governments. Selected out of 160 applicants, 40 candidates are currently undergoing training.

A two-months' family planning course is periodically conducted by the Vidarbha Branch which has upto now, trained 181 persons. The training has been recognised by the Maharashtra Government. Short training courses in family planning were conducted by the Delhi, Mysore, the Punjab and Vidarbha Branches.

The Jabalpur Branch has now started publishing a quarterly news Bulletin in Hindi—"Parivar Aayojan Sandesh" (Family Planning Message). The Andhra Pradesh Branch publishes "Kutumba Mitra" (Family Friend), a quarterly Journal in Telugu, and is in its second year of publication, a subsidy of Rs. 10,000 being received from the State Government in the first year. Many other Branches bring out their own leaflets and literature on family planning.

Family Planning Day is observed by most Branches by holding special meetings and film shows. Some of the Branches observed the Children's Day (14th November) also, and the Jabalpur Branch held a successful Baby Show in 1963 on that Day.

Thanks

In addition to Smt. Dhanvanthi Rama Rau and Smt. Wadia, some of our members have given outstanding services. Smt. Vaidehi Char

has been the Honorary Treasurer of the Association ever since its foundation and has worked very quietly but with such efficiency and thoroughness that the Association's accounts have always been in good order, from the time when she started with a petty postal account amounting to perhaps Rs. 50/- until the present day when the Balance Sheet shows a figure of Rs. 3,65,612.23. Smt. M.S.H. Jhabvala as Joint Honorary Treasurer, has also given valuable support to the work and has been ever ready to help on the occasions when the services of a Joint Hon. Treasurer were needed. Another voluntary worker who has given devoted service is Smt. Gulab Dalal who has been in charge of the Supplies Department for some years now. This is a task involving meticulous attention to detail and keeping of orderly accounts, and Smt. Dalal has given ungrudgingly of her time and effort to develop this Department. Dr G. M. Phadke, the Honorary Director of our Family Welfare Bureau, has devoted himself selflessly to carrying on the work at the Bureau, with the assistance of Honorary Visiting Specialists, and the staff. The Bureau is known not only in India but abroad, also, as a well-run Centre with an expanding scope for development. We record our sincere thanks to them all. Hearty thanks are also due to our Vice-Presidents who have worked so strenuously in their respective areas. The members in the Branches who have helped to spread the family planning programme must also be thanked for their work.

We would also like to record a special vote of thanks to the IPPF, to which we are affiliated, which has so generously given us funds for specified projects and helped in numerous other ways. Sincere thanks are also due to all those who gave us donations, small or large, many of which came as a result of learning about the work of the Association when visiting Headquarters or through reading our Reports.

We would be failing in our duty if we did not record our hearty thanks to the Government of India, for the grants which it has given us for our work. The support and encouragement we have received from Government sources has been invaluable as it has helped us to plan our work on a more permanent basis and undertake new schemes confidently.

We thank all those individuals and institutions, whether donors or not, who have expressed in generous terms their appreciation of our aims and efforts, for without the encouragement and support which we receive from the public, whether it be prominent individuals or ordinary private citizens, it would not be possible to carry on this work with any success.

NOTES AND ABSTRACTS

FPAI ALL INDIA COUNCIL

The Biennial General Meeting of the Family Planning Association of India was held in Patna on the 22nd January 1964. The biennial elections took place at this meeting and the following were elected to the All India Council of the Association for 1964-66:—

OFFICE BEARERS

President :

Smt. Avabai B. Wadia

Vice-Presidents :

Dr. N. P. Tripathi

Smt. Premlata Gupta

Shri B. M. Singhi

Hon. Gen. Secretary :

Smt. Mallika Ghosh

Jt. Hon. Treasurers :

Smt. Vaidehi Char

Smt. M. S. H. Jhabvala

16 Elected Members :

Dr. S. N. P. Agarwal	(Tajpur, Bihar)
Smt. Parvathi Ayyappan	(Ernakulum)
Smt. Gulab Dalal	(Bombay)
Smt. Vishakha Dixit	(Jabalpur)
Shri L. N. Jha	(Patna)
Smt. Mithan J. Lam	(Bombay)
Smt. Krishna Munshi	(Raipur)
Smt. Shanta Navkal	(Bombay)
Smt. L. Newaskar	(Indore)
Shri Murlidhar Pandey	(Patna)
Dr. G. M. Phadke	(Bombay)
Smt. Krishna Puri	(Delhi)
Shri R. I. L. Sahni	(Chandigarh)
Smt. Sushila Singhi	(Calcutta)
Dr. (Mrs) K. Sundaram	(Delhi)
Smt. Amar Kumari Varma	(Calcutta)

Branch Representatives : One Representative from each Branch.

FAMILY PLANNING ORIENTATION DAY-CAMP

An experimental family planning orientation Day-Camp was organised at the Worli Community Centre of the Tata Institute of Social Sciences, with the object of bringing education for family planning within easy reach of working class women in the Worli B.D.D. Chawls, and also to provide training in programme planning to students specialising in community development work. The project was sponsored jointly by the Family Planning Association of India and the Department of Urban Community Development of the Tata Institute. The personnel for the instruction were provided by the Government of India Family Planning Training and Research Centre, Bombay.

The Camp was inaugurated on 31st December 1963, by Dr. G. M. Phadke, Hon. Director of the Family Welfare Bureau of the F.P.A.I. Dr. M. S. Gore, Director of the Tata Institute of Social Sciences, welcomed the Chief Guest, and Smt. Lilavati Gujarati, Community Organizer of the Worli Community Centre, proposed a vote of thanks.

In all 75 women enrolled for the Camp which was held on four consecutive days from 12 noon to 4.30 p.m. They were organised into two separate instruction groups which functioned simultaneously. The Marathi-speaking group consisted of 41 participants and the Urdu-speaking group of 34 participants. The Campers ranged in age from 16 to 45 years, the majority of them belonging to the lower age groups. Twenty of the participants had no children.

Lectures on anatomy and physiology, the use of contraceptives, sterilisation, the family and the child, etc., were given at the Camp. The participants evinced keen interest and asked many questions on the subjects discussed. Several of the women sought information on the causes and treatment of sterility.

There were group discussions on the concluding day of the Camp when campers were divided into groups of 8 to 10 persons and explained the use of various contraceptives. Literature on family planning was distributed on the occasion. An attempt was also made to find out the views of the participants with regard to family planning and its need in their individual cases.

It is interesting to know the views of the 48 participants who were interviewed before joining the Camp. Their answers to the question "What do you know about family planning?" are given here :

<i>Response</i>	<i>Number</i>
No idea	29
F.P. helps one to have a limited number of children	9
F.P. helps to have only the desired number of children	5
F.P. teaches one how to avoid pregnancy	3
F.P. teaches one how to make the family happy	1
F.P. teaches the spacing of children	1
	<hr/> 48 <hr/>

This shows that more than half the Campers did not have any idea about family planning before attending the Camp.

The impact of the Camp on the participants can be seen from two factors, namely their desire to use certain types of contraceptives, and the expressed need for further instruction and guidance.

(i) *Preference regarding the use of contraceptives:*

Forty participants showed preference for the use of contraceptives as follows:

Foam tablets	29
Diaphragm & Jelly	4
Condom	7

(ii) *Further advice and guidance:*

Twenty-three participants expressed desire to have further advice and guidance with regard to the use of contraceptives, 19 sought advice for sterility, 10 for tubectomy, and one for repeated abortion. Thus, in all, 53 participants expressed the need for further instruction and guidance.

The Day-Camp proved useful not only in spreading knowledge of family planning, but also helped to make it available almost at the doorsteps of that section of the Community which needs it most. The daily increase in the number of visitors at the Camp showed awareness of this need. The Camp also served to exemplify how problems of planning and organisation can be solved through cooperation and the sharing of responsibilities by various agencies.

EIRE*

The National Maternity Hospital, Holles Street, Dublin, which is the largest Roman Catholic maternity teaching hospital in Eire, is giving

* From *International Planned Parenthood News*, February 1964

advice on the rhythm method of family planning. The Hospital clinic, open to all married couples, is reported to be widely used. (*Medical News*, London, October 25th, 1963)

The Master of the Hospital, Dr. Kieran O'Driscoll, lecturing on marriage and the family under the auspices of the Dublin Institute of Catholic Sociology, said that theologians were "now virtually unanimous in the opinion that the ideal family is that which a particular couple can procreate and rear, having due regard to the moral, physical and intellectual welfare of the children, the health and reasonable comfort of the parents and the circumstances of the community. This means responsible parenthood. It will often require a conscious regulation or spacing of births. In so far as this is based on rational decisions arising from generous motives it merits high praise."

The Hospital's marriage guidance clinic had a threefold purpose: to provide advice on family spacing in accordance with the moral law; to contribute to the formation, in Ireland, of a constructive and distinctively Christian public attitude to this important matter; and to undertake research that will make it possible to give more accurate advice in the future. (*Sunday Review*, Eire, December 4th, 1963)

MENTAL HEALTH SERVICE FOR STUDENTS

One of the curious things that has been gradually uncovered in recent years is the extent of mental ill-health among university students. The question arises whether the demand for psychiatric help among students is a reflection on the fact that in many universities such help is now fairly readily available. However, recent comment in Britain suggests that this is not the case; it suggests indeed that such services need considerable extension in many areas. In most countries, university students represent valuable material on which much money has been expended; from the economic standpoint they deserve some special attention. Very few, however, need special psychiatric help, and most of their mental health problems can be dealt with by an enlightened general practitioner with experience of students. At one London college, 6% of students each year appear for psychiatric advice. It is interesting to note that of those with minor psychiatric disorders, the vast majority of the clients have a slightly better than average record of success afterwards. (*From "World Medical Journal," September 1963*)

CHILD HEALTH IN INDIA

"About 40 per cent of our total population is that of children," writes Dr. D. S. Raju, Union Deputy Health Minister, in an article published in *Family Planning News* (November 1963). He adds: "It is expected that at the end of the Third Five Year Plan, there would be about 64 million children in schools."

"In many countries, the maternal mortality is less than one per 1,000 births and the infant mortality less than 30 per 1,000 births. Our figures are estimated to be around 16 and 100 respectively," Dr. Raju adds. "For prenatal, infant and toddler care at present we have 5,802 rural and 1,515 urban maternity and child health centres, many of which are staffed only by midwives. About 20 per cent of the total 17 or 18 million births per annum take place in maternity homes and hospitals. The remaining take place in homes and are mostly taken care of by untrained indigenous *dais*. Until every mother can get the services of a trained midwife at each birth—which is likely to take a decade or more, these indigenous *dais* have to be trained to do their job in a clean and intelligent manner. About 20,000 have already been trained and an equal number is proposed to be trained during the next few years."

Commenting on the nutritional status of children in the country, Dr. Raju states: "The Ray Committee has pointed out that recent surveys among students have revealed that less than 25 per cent of children examined have good nutritional status.

"About 40 per cent suffer from nutritional disorders resulting in 30 per cent of defective vision. The other common diseases found were skin, dental caries, enlarged tonsils and spleen. In a very recent survey undertaken in Delhi State both for urban and rural children, the number of defective children was as high as 84 per cent, the common defects found being malnutrition, eye diseases, enlarged tonsils and adenoids and dental caries. The conditions in other parts of the country are supposed to be no better. The above conditions call for immediate institution of programmes for improving the nutritional status of children."

BOOK REVIEW

Family Failure by A. F. Philip. London: Faber and Faber, 1963.
(311 pp., 32s. 6d.)

As the subtitle of the book indicates, this is a report on a study of 129 families with multiple problems and is based on research undertaken for the Family Service Units in England by D. Woodhouse.

The book consists of 17 chapters and an Appendix. Chapter 1, on Research in a Casework Agency, introduces the reader to the objectives, scope and research design of the study, and the problems to be confronted in agency research. The objectives of this study, based on early experience, discussion, and a pilot study, were: (a) to describe the characteristics and difficulties of families accepted for long term case work by the F.S.U.; (b) to identify and interrelate the major factors which appeared to create difficulty for these families; and (c) to comment on the findings and their implications for the social case worker, the social administrator and for future research.

The study was confined to 129 families selected from among 220 families registered with 11 F.S.U. The author has done well to point out that research in an agency setting has problems not encountered in other settings. He has also rightly pointed out that case records are usually inadequate for research purposes. But one wonders whether the method of "social history" or "social study", used in this study to collect the relevant information, is necessarily a derivative of "case work practice". Again, the opinion that six months is the minimum period required for collecting histories, seems an arbitrary one. However, this estimate can be arrived at only after knowing something about the frequency of contacts, the cumulative degree of rapport established at each contact, the content of discussions, etc.

Chapters 2 to 12, forming the first part of the report, are devoted to a discussion of the characteristics and problems of the 129 families. After describing the structure and composition of the families, the successive chapters deal with the problem areas viz., the economic conditions, housing, health and intelligence of the parents, the family and community interactions, marital relations, contact with law, and the care, treatment, health and adjustment of the children. Chapters 3 and 4 are particularly interesting as they assess, against certain standards, the economic and housing aspects of these families. Social Service agencies in India, especially those providing financial assistance to needy families, would do well to ponder over these standards and develop appro-

priate ones to suit Indian conditions. Those who wish to undertake economic surveys would also benefit from the discussion on the need to take into account the free tuition, free meals and free milk given to children in schools, the free recurrent dining with relatives and friends, help received during crisis, etc., while assessing the economic conditions of a family. Again, the findings stress the fact that the criteria for determining economic need and housing adequacy would and should depend *inter alia* on the cultural patterns of the families covered. This needs to be particularly borne in mind by those of our foreign oriented professional social workers who tend to transplant their new knowledge in an Indian setting, without modifications.

Chapter 6, on the intelligence of parents, discusses diligently, among other things, the conditions under which the I.Q. test could be a misleading measure of intelligence. Thus it is removed from its undeserved status of supreme judge of intelligence to the position of a tool to be used sparingly and appropriately.

Chapter 12, on the Multiple Difficulties and Family Failure, is an attempt to spell out a bit more, the findings mentioned in the earlier chapters. One is, however, left with the impression that in attempting to do so, there has been a tendency to oversimplify. The major findings of this study, which can be discerned from the conclusion or summaries sometimes given at the end of some of the earlier chapters is that 44 families (34%) showed problems in all these areas (viz., situational, domestic, economic, home care, child care, health and adjustment of parents, health and adjustment of children and personal relationships) and a further 47 (36%) in six of them. Thus 70% of these series can justifiably be considered multiple problem families (page 208). Here, one would have expected a detailed discussion on the interrelations of the several areas of difficulty. Probably, some indication could have been given on the weightage to be allotted to the different problem areas. This would have been a distinct contribution to knowledge on problem families. Probably this was not done because, as the author feels, "one cannot say on the evidence of this series of families that there is some single characteristic or indeed one or two general traits which they all have in common" (p. 209). Yet, the author tries to indicate them "nevertheless".

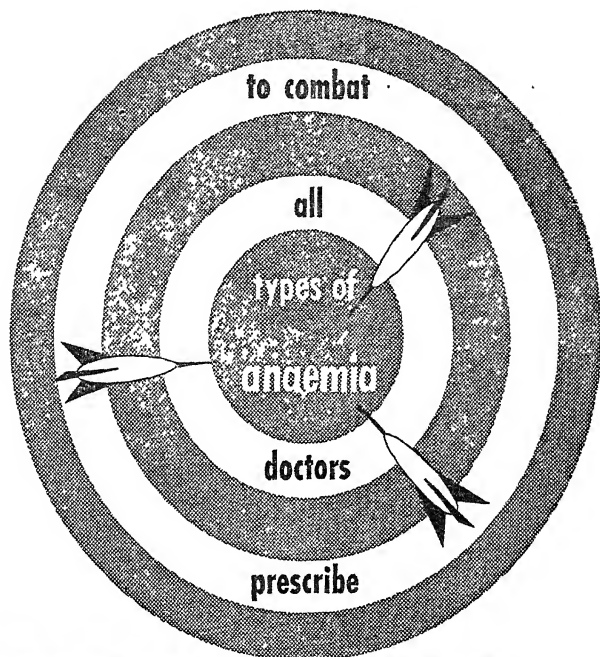
Chapters 13 to 15, forming Part II of the report, are devoted to the case histories of three families. The author has done an excellent job in describing these families. This should serve as an example and guide to those who wish to report on case studies.

Part III, consisting of Chapters 16 and 17, provides a basis for a theory of problem families. It stresses the fact that immaturity of the parents, arising out of unhappy or unbalanced childhood, plays an important role in creating problem families. It also emphasises the contribution of early environmental conditions of the parental families in creating problem families later in life. This has been mentioned by many writers in many books, but what is distinctive about this book is that painstakingly, in the simplest language, it traces the effect of a poor early upbringing and environment on later family life. These chapters also systematically analyse the role of the problem family itself in accepting professional help and helping itself to improve. No less important is the way the case worker functions. There are many pitfalls that case workers should avoid, but do not, because they are either inexperienced or are not receptive to innovations or, in extreme cases, because they are too self-confident in their limited knowledge and experience. This point is brought home by the author in his assessment of the need and functions of expert supervision of case workers.

In discussing the prospects for future research in this area, one feels that the author has not been as meticulous as he was in dealing with the other objectives. He seems doubtful about the utility of further research on the problems and characteristics of problem families. Is it because this research has, once and for all, settled this issue, or is it because these findings, based on a study of a low socio-economic group, hold good for the higher strata also? Or again, is it because no amount of research would ever answer the question? One is left perplexed, for this report neither lays down any criteria nor does it generalise. In addition, one does not find the answer to the question: can the social history forms, which were prepared for this study, be easily adapted and utilised by case workers as a part of their routine recording?

This book, apart from some shortcomings by way of a few tables without titles and non-description of the social classes mentioned in Table I, is a most welcome addition to the few qualitative social work research studies. It has the advantage that research students could use it as a reference book on agency research design and methodology. It will also be useful to those in the field of family welfare. The bibliography at the end of the book is extensive and should be useful to readers interested in pursuing the subject further. It is well-written in a simple and lucid style. Another striking feature is the way in which the author has blended all the qualitative information, leaving in the background, statistical data and quantitative analysis.

P.R.



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2. To work for the establishment of Centres where married couples can get advice on,
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 - (b) the use of scientific contraceptive methods,
 - (c) treatment of childless couples desiring to establish a family,
 - (d) marriage problems.
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DR. G. M. PHADKE - IN MEMORIAM

We deeply regret to record the death of Dr. Gangadhar M. Phadke on Monday, 14th September, 1964. The Family Planning Association of India has lost a valued colleague, a devoted co-worker and an eminent scientist. Dr. Phadke was associated with the Family Planning Association of India since 1952 and after the death of Dr. A. P. Pillay in 1955 accepted the directorship of the Family Welfare Bureau (the Infertility and Sterility Clinic of the Family Planning Association of India), the work of which he greatly expanded, introducing the Vasectomy Department which he directed most ably. He spared neither himself nor his valuable time in giving all his services to the cause of family planning in India, even visiting interior villages to inaugurate family planning training camps.

Dr. Phadke took active part in Seminars and Conferences organised by the FPAI and in International Conferences on Planned Parenthood. He represented the Indian Ocean Region of the International Planned Parenthood Federation at medical meetings on several occasions and attended the meeting of the International Medical Committee of the IPPF in London last year.

As a research worker he was known internationally, especially for his success in the field of Vasectomy and the reversal operation in which he had remarkable success. He was the author of many learned papers on this subject. Dr. Phadke was a brilliant surgeon who had obtained his F.R.C.S. in London at a comparatively young age. He was an Hon. Surgeon of the King Edward Memorial Hospital, Bombay, and Associate Surgeon of the Bombay Hospital. He was also a trustee

of and directly connected with many educational and cultural institutions in the city.

A man of great personal charm, he carried his erudition lightly. His sympathy and understanding endeared him to all who knew him. His death will be deeply felt by his very large circle of friends, colleagues, as well as the common people whom he befriended. We offer our sincere condolences to Mrs. Phadke and other members of his family on their irreparable loss, and share with them a deep sense of sorrow.

REVERSIBILITY FOLLOWING STERILIZATION BY VASECTOMY

HERBERT BREWER

The remarkable spread in recent years of the vasectomy operation as a means of fertility control in India, the U.S.A., and elsewhere brings into prominence the question of its reversibility. As Dr. Warren Nelson, Director of the Population Council, U.S.A., has observed, "if the operation can be perfected so that the success rate is 85 or 90 per cent, it is likely that many people will find vasectomy an acceptable method of contraception".¹ In the United States according to a recent report, the number of vasectomies performed for contraceptive purposes has doubled in the last decade and now amounts to about 40,000 a year. The states of Virginia and North Carolina have enacted laws specifically permitting voluntary sterilization for the purpose of limiting family size.² It seems likely that more states will eventually follow suit.

In these circumstances it is readily intelligible that an increasing number of men are asking what are the prospects of restoring fertility following a vasectomy operation. The answer on the whole is fairly encouraging. When Dr. V. J. O'Connor circularized the majority of urologists in the U.S. prior to 1948, he elicited that concerning the relatively few attempts at anastomosis following vasectomy that had been attempted, 45.5 per cent had been successful.³ This was surprisingly good considering that most of these operations were intended to be definitively permanent and that surgeons rarely gave any attention to techniques calculated to maximize the prospects of success in reversal at a later time. More recently, with the development of better techniques, percentage success rates have been reported of 77 by Roland,⁴ 80 by Dorsey,⁵ the same also by Jhaver⁶ and 88 by Phadke.⁷ According to Dr. W. E. Goodwin of the Department of Urology in California University Medical School, "the sterility which results from vasectomy is reversible in fully 90 per cent of cases if a skilful surgeon is available"⁸

However, it seems clear that relatively few surgeons have the opportunity of the extensive practice which is necessary to develop high skill in performing anastomosis of the vasa. Anything which can be done to simplify and, if possible, to speed up both the initial operation as well as its subsequent reversal would therefore appear to be highly desirable.

It has been noted by a number of authorities that both as regards animal and human subjects, spontaneous reunion of severed vasa is prone to take place with great facility, so much so indeed, that in the initial operation it is a major preoccupation of the operator to exclude that possibility. Dr. Walter Stokes, who has wide experience in this field, has stressed the importance of guarding against eventualities of this kind.⁹ Professor Elmer Belt of California University Medical School states that even when vasectomy is performed with great care, recanalization automatically re-establishes itself in rare cases. He refers to a recent national survey in the U.S.A. in which urologists were asked about this particular point; in 971 replies to a questionnaire, there were reported 41 proven cases of spontaneous recanalization. In a second series of 750 replies there were 55 spontaneous recanalizations.¹⁰ However, as Tietze has pointed out in relation to tubal sterilization and vasectomy, "With reasonable degree of surgical skill the number of failures is relatively small and the effectiveness in controlling fertility is far superior to any contraceptive method now available."¹¹

According to Rolnick¹² "it has been recognized clinically for many years that attempts at sterilization by either cutting or tying the vas are often unsuccessful. I demonstrated many years ago that the vas deferens regenerates very rapidly after it has been cut or tied and that this regeneration is aided by its sheath. Therefore if vasectomy is to be properly done, a rather large portion of the vas should be resected and the cut ends crushed and turned backwards. Successful regeneration of the vas deferens is possible many years after resection. The remarkable regenerative capacity of all epithelial lined ducts is exemplified here as in other portions of the body, and it is chiefly this regenerative capacity that makes urologic surgery possible." This lucid exposition reveals how, in attempting to escape the Scylla of spontaneous recanalization, the surgeon is prone to run into the Charybdis of irreversibility. For O'Connor noted, as among the most frequent causes of failure to effect anastomosis, the fact that so large a portion had been removed as to preclude bringing the severed ends together; another common cause was excising tissue too close to the globus major.¹³ As another American surgeon has commented, why should we find it so difficult to recanalize the vasa, when nature finds it so easy? What it is now desired to suggest is that it may be possible by working with nature instead of against it, to take advantage of the very healing power revealed in the tendency to spontaneous reunion, both to make the initial sterilizing operation more simple and certain, while at the same time conserving tissue and maximizing the prospects of success in a reversing

operation, should that subsequently be found desirable. It would appear a sound principle in surgical as in many other arts to aim at achieving the maximum by means of the minimum. Instead of cauterizing, crushing and ligating, why not invoke the vis medicatrix nature itself to set up a barrier to the exit of the sperms, more effective than that imposed by man's rather clumsy devices!

In other words, why should it not be possible by bringing the two proximal ends of the severed vasa into apposition and by allowing them to unite, effectively to exclude the possibility of sperms getting any farther than the lower part of the scrotal sac, into which, if the distal ends were left open, they would presumably drain? Should it prove feasible, it would obviate certain drawbacks which have come to light in a small minority of vasectomies in which ligating the distal ends of the vasa has caused discomfort by reason of back pressure. Also, the few cases in which inflammatory reactions have occurred as described by Friedman¹⁴ and others may be associated with a faulty technique which might similarly be obviated. An American surgeon who claimed to have performed over 400 vasectomies informed me that he had never encountered such reactions in his own patients, though he had seen them in other vasectomized men. This surgeon used pure phenol to cauterize the crushed and ligated proximal ends of the vasa while leaving the distal ends open. However, it may be noted that surgical lubricating jellies are capable of producing granulomatous lesions when they are employed without proper care.¹⁵

It was noted editorially in the *Eugenics Review*, that some surgeons who perform vasectomy leave the distal ends open in order to facilitate recanalization later.¹⁶ One great advantage which might accrue from the adoption of the proposed technique is that it would encourage surgeons to perform the sterilizing operation with the idea of potential reversibility always in mind. When surgeons approach the operation with the idea of cutting something out rather than of imposing a simple occlusion, they tend to conceive the whole procedure in an obliterative light which is really not essential. That this may be so is suggested by the fact that in a recent exchange of letters in *The Observer*, a surgeon of consultant status claimed in effect that vasectomy by definition is irreversible because you cannot replace something which earlier has been removed. It is true that, as a number of authorities have agreed, the term "vasectomy" is open to objection on semantic grounds. Should the proposed technique prove practicable and become widely adopted, it would seem a good opportunity to bring medical nomenclature more in accord with realities by distinguishing it from the earlier methods of vasectomy by designating it specifically and accurately as "Reversible

Occlusion of the Vasa" (R.O.V. for short). The operation of R.O.V. in itself would provide the best possible education of the surgeon in the hitherto infrequently practised art of reversal of sterilization by anastomosis of the vasa deferentis. In the initial operation a temporary sterility would be imposed by anastomosis of the proximal ends of the vasa, while in the reversing operation, fertility would be restored by a precisely similar treatment applied to the severed ends so as to reunite them in the same position where they were at the beginning.

In this connection, it would appear that both the initial sterilization and the later desterilization might be immensely simplified, speeded up, and rendered less expensive by the utilization of surgical stapling machines which seem likely to be adaptable readily to such operations as these. In 1961, a Russian surgeon gave a demonstration in Washington and showed by an operation on a dog's blood vessels and organs that procedures which, by traditional surgical stitching methods would take hours, could be performed in minutes by the aid of these suture-replacing surgical stapling machines.¹⁷ More recently, the Russian claims have been confirmed by American workers, some of whom have devised improvements to make the apparatus yet more simple and rapid in its operation. They claim that in this way it is now possible for ordinary surgeons successfully and rapidly to perform operations which otherwise would only be tackled by specialists using exacting and time-consuming manipulations.¹⁸

It will readily be appreciated how important the application of R.O.V. by means of surgical stapling might conceivably become in connection with the programmes of voluntary sterilization on a mass scale, such as are now being attempted in India. For example, it is stated that in the Punjab, the government has set itself a target of 100,000 vasectomies a year, but is finding it difficult to achieve it by reason of shortage of qualified personnel.¹⁹ Even though, as Gopalaswami has claimed,²⁰ the cost of a sterilizing operation in India is only one-tenth to one-twentieth that of providing a free supply of contraceptives to cover the reproductive span, the factor of cost is still critical.

The writer is not a surgeon but is encouraged to submit these suggestions because so far the enquiries he has been able to make of medically qualified friends have raised no fundamental difficulty or objection. In view of the almost desperate demographic situation that is building up in the world as a whole, it is surely only common sense to give attentive consideration to every constructive suggestion, regardless of whence it comes. If that were always done we might be in less danger of the tyranny of inert ideas which, as A. N. Whitehead stressed, represent a major menace to progress.

It is well to remind ourselves that Western Europe too has a problem of fertility control and that we can hardly be content to let it be solved by abortion which, as Professor Harmsen of Hamburg has reminded us, takes a terrible toll of female health in destroying every year more human life than all the infectious diseases combined. The example of India surely reveals that voluntary sterilization by vasectomy offers a harmless and effective alternative to the policy of legalized mass abortion whose evils are well recognized in the countries where it is most prevalent.

One last thought concerning the legal position in Britain. The possibility of reversal has an important bearing on the question of whether voluntary sterilization for purposes of contraception is lawful. For if it can be shown that in accepting surgical occlusion of the vasa in order to avoid producing unwanted children, a man is only establishing a condition of temporary infertility which is capable of being removed should he wish it, there can hardly exist any reason for treating him any differently from those who accomplish the same end by other contraceptive means. As Dr. Glanville Williams has pointed out,²¹ vasectomy cannot be brought within the legal definition of a maim if it can be shown to be reversible, because the legal meaning of a maim (as contrasted with a wound) is that it is permanent. The development of better methods of restoring fertility following vasectomy might indirectly help to clear up the medico legal ambiguity which still surrounds voluntary sterilization in some countries.

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INDIAN FERTILITY - OUR KNOWLEDGE AND GAPS

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Part II—Physiological And Social Factors

The pattern observed in Part I* can be better understood in the light of certain physiological and social factors that have been studied. They are discussed in this Part.

(13) Fertility below age 18

In the Indian pattern of age-specific fertility rates given in Para 7, the low rate for ages below 18 attracts attention. The present marriage age of girls in India is between 15 and 16; in some populations it may be a little more or a little less. Thus, the age group below 18 consists mainly of girls who were married during the preceding 2 or 3 years. Their fertility performance is greatly disturbed by what is incorrectly described as "adolescent sterility". Evidence on the point does not indicate complete sterility during the first few years of menarche but rather sub-fecundity leading to low pregnancy rate or long intervals of exposure to risk prior to conception. It is believed that fecundity depends on a general physical maturation process which is incomplete at menarche. Full capacity to bear and nurse children involves many complex biological problems which are imperfectly synchronised with the beginning of ovulation and menstruation. Anovulatory cycles are known to occur in the early period after menarche. Fluctuations in fertility observed at the beginning of marriage in case of women marrying below age 18 or 20 take a few years of marriage to level out. Then again, there are certain customs in many Indian societies which lead to fairly long periods of marital separation in cases where the bride is particularly young. The young bride spends a considerable portion of the early period of marriage at her father's home away from the husband or, as happens not infrequently, the husband goes out for service, leaving the young bride with the mother-in-law. It takes a few years for the conjugal relations to be free and unrestrained by any such rigours.

(14.0) Fertility at other ages

In what follows, decline in fertility is discussed solely with reference to women, but comparable processes take place in men, though

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over a much longer span. Changes in fecundity of women with age are in part affected by the decline in fecundity in men or in the conjugal relation of the spouses, but to simplify the discussion and to pin-point facts of changes in female fertility, we may ignore the role of male fecundity, particularly when the ages of husband and wife increase simultaneously and the effect of increasing ages works in the same direction in both the cases. To simplify discussions further, only legitimate marital fertility is considered. In many studies, age-specific fertility rates based on all women are taken but they are affected by the proportion married in the age group and marital fertility rates.

(14.1) Proportion married

Marriage is almost universal in India. According to the 1961 Census, 86% of women in the reproductive age group 15-44 were in married state, only 6.7% were widowed, divorced or separated. The extent of marriage is the highest in the age group 20-34, which is also the group where marital fertility is at the highest. This leads to a high birth rate. The following figures show the percentage of married, widowed, divorced or separated women in the different age-groups :

Percentage of women in different age-groups

	Married	Widowed, etc
15-19	69.8	1.2
20-24	91.9	2.2
25-29	94.3	3.9
30-34	91.5	7.5
35-39	87.0	12.2
40-44	77.7	21.7
15-44	85.8	6.7

It is true that the present taboo on widow remarriage is keeping down the expression of full fertility, but it is possible to take an exaggerated view of its effect. For one thing, the proportion of widowed women is high in the later age-groups where fertility is greatly reduced. For another, inspite of giving them a legal sanction, remarriages have not become more popular, because the social rigours are still operating. In a large section of the population, widow remarriage was already prevalent and it is only in the upper classes that remarriage was frowned upon. The results of large scale sample surveys carried out by the Registrar General indicate that the proportion of women married more than once is only around 3% of ever-married women. Even in Japan, where the institution of remarriages is more popular, only 11.4% of married women, in 1949, belonged to the remarried group. In the 1952 Sample (4), this percentage was 9.2.

(14.2) Decline in fertility with age

Henry Louis (1) has pointed out that if the fertility of the 20-24 years age group is taken as 100, the average fertility rates would be 93.5, 85.3, 68.7, 34.9 and 5 for the 25-29, 30-34, 35-39, 40-44 and 45-49 years age groups respectively. He has further shown that the rate in the 20-29 years age group is highly correlated with the level of fertility in the population at large. In a series of rates for 13 populations, the fertility rate for the 30-39 years age group varied between 67 to 89% of the rate for the 20-29 years age group with the mean at 80%. For nine of the countries this percentage varied between 76 and 81. Similarly, the index rates for the 40-49 years age group varied between 14.5 and 28.5% of the rate for the 20-29 years age group with the mean at 20.5%. For six populations this percentage was between 17 and 22. A similar result is shown by the Indian rates given in para 7. For Punjab the rate for the 28-37 years age group is 71% of that for the 18-27 years age group and 33% for the 38-47 years age group. Similarly, the rate for Jammu & Kashmir for the 28-37 years age group is 90% of that for the 18-27 years age group and 36% for the 38-47 years age group. The pattern of variation in fertility with age in different populations is very similar, but the level varies considerably even in the absence of birth control. In Henry Louis' data (1) the highest fertility at age 25 was 1.72 times that of the lowest. Similarly, the highest average number of children per woman of completed fertility and married at age 20 was 1.76 times that of the lowest average number.

(14.3) Sterility

The marital age-specific fertility rate depends on two components—proportion of fecund women in the age group and their fertility. Now, proportion fecund is the complement of proportion sterile. Thus, sterility is a distinct factor in the study of fertility. It is found that infertility is an important factor in keeping down the fertility of a population. Reproductive activity ceases after a certain age. All women become sterile by the time of menopause, which may occur between ages 45-50, but some women may suffer from primary sterility and may not be capable of conceiving at all. In Taiwan 4% of women past childbearing age and in Guinea (Foulta Djalon) 7% (1) were childless. The level in India is practically the same as is shown by the figures in para 11.11. Apart from primary sterility, secondary sterility may arise after one or more births. It may be natural or pathological or may be caused by infection or by accidents, say at confinement.

(14.31) Figures in para 9 (b) show that sterility is a risk increasing with age. It also increases with birth order as is shown in para 9 (a).

This raises a more fundamental question, namely, whether secondary fertility is a function of age or of parity. As parity increases, age also increases. This means that sterility will increase as age increases, even in case the direct cause responsible for the development of sterility is the birth order and not age. It is, thus, possible to hold the view that the observed increase in sterility is due to the effect of confinement only and is actually independent of age or is only slightly affected by it. If that be the case, risk of sterility should be very small and not decrease with age by the observed amount. For, let us suppose that a proportion s of women is rendered sterile after a confinement and that the ratio of births in a year to total women is f . Out of 1000 women, after the first birth $1000(1-fs)$ women will remain fecund at the end of the year, after the second birth $1000(1-fs)^2$ will be fecund at the end of the following year and so on. Actually f changes only gradually with age and if s is constant for each confinement, whatever be its order, the series giving the proportion of fecund women will decrease with age in the first few years and then flatten out, but this is contrary to what is observed from the figures in para 9(b). We have, therefore, to assume either that the risk of sterility increases as the age of the woman advances, or that it increases with each confinement, the rate of increase being accelerated after a certain number of confinements.

(14.41) Fertility of fecund women

The second component of marital age-specific fertility, namely, fertility rate of fecund women cannot be observed directly. One can derive it with reference to women who later prove to be still fertile after crossing the upper age limit of the group to which they belonged at the time of survey e.g. women in the 25-29 age group after they cross the age of 30. Henry Louis (1) has given the age specific fertility rates in 6 European populations for couples who were later fertile. Taking the rate for the 20-24 years age group as 100, the mean rate for the 25-29 years age group was 97.5%, for the 30-34 years age group 89.5%, and for the 35-39 years age group 78.5%. These percentages are not very different from those for proportions fecund, which for the successive age groups were 96.5, 91 and 80. Sterility does not progress quickly at least upto the age of 40 or so. The same seems to be true of the decline in the fertility rate of fecund women. The evidence presented in this para seems to suggest that the two components of age-specific fertility are more or less of equal importance in causing reduction in fertility of women as age advances.

(14.42) It is probable that "some linked processes of maturation and senescence that eventually lead to menopause induce reduction or

cessation of fecundity long before that event. A decline in the average weight of ovaries during the thirties may have some significance in this respect" (5). The emergence and decline of fecundity in women are not identical with the onset and cessation of menstruation but are obviously related phenomena. Lorimer (5) has quoted that the mean values found in 142 series of data on the menarche ranged from 13.2 years to 17.0 years, giving an average of 15.2 years. The mean age at menopause in 20 series ranged from 44.0 years to 49.4 years, giving an average of 46.4 years. Thus, menstruation in a woman continues on an average for 31 years.

(15.0) Spacing.

At younger ages, incidence of sterility in the various populations does not differ so much as the fertility rates of fecund women. Now, the age-specific fertility rate of fecund women is approximately equal to the inverse of the average of those intervals between successive births, of which the beginning, or the end, or both, fall in the age group under consideration. Thus, reduction in fertility of fecund women means that births become more wide-spaced. Hence, the major factor accounting for the differences in the fertility levels of fecund women in different populations can be understood in terms of spacing of births.

(15.11) Spacing between live births depends on several factors, which may be enumerated as follows :

(i) *The length of pregnancy* : It varies closely around 9 months. Variations by 2 months on either side are not unknown in exceptional cases in India.

(ii) *The post-partum infertile period* : It is determined by the interval between delivery and resumption of sexual relations or ovulation, whichever be later. Social practices and marital customs such as sexual taboos and separation from the husband due to the practice of the wife staying at her mother's home for long periods, affect the resumption of sexual relations. The period when ovulation reappears after delivery, varies considerably. Breast-feeding is known to affect it. In some women, ovulation is resumed quickly even when they are suckling their babies, in others it appears later, but still before the baby is weaned, and in some others, only after the baby is weaned. It seems likely that the relative proportion of the three types of women varies considerably between different populations, which may account for the observed differences in the period. The post-partum infertile period may be as short as one month and as long as 18 months. In exceptional cases, temporary pathological sterility may prolong the period. The total period between conception and the termination of

this period may be called the 'Idle Period'. A woman is susceptible to pregnancy outside this idle period. The idle period associated with a fetal loss is generally shorter than that associated with live births.

(iii) *The conception delay*: It is the period between the termination of the post-partum infertile period and the next conception. Several factors e.g. frequency of intercourse and fecundability i.e. probability of conception in a menstrual cycle outside the idle period, determine it. This probability varies with age, parity and individual constitution. Contraceptive practice works through prolonging this period of conception delay. If a contraceptive is 90% effective, it should prolong the period of conception delay 10 times. The subject of birth spacings is receiving increasing attention in the context of birth control. A proper understanding of the structural components of birth spacing promises to yield the key to the problem of reducing fertility by prolonging the intervals. Some analytical work has been attempted by Henry Louis (10) and Kumudini Dandekar (11).

(15.12) Fetal loss

From the above, it is seen that the incidence of fetal loss has an important bearing on fertility of fecund women as measured by live births. If the level of fetal loss is high, improvement in health conditions may result in the reduction of still births and hence may lead to more live births. There is no firm idea about the incidence of fetal loss in India, as registration data are grossly deficient. Large-scale Fertility Surveys of the Registrar General show 5.8% of conceptions result in fetal loss. Of the total fetal deaths, 65% occurred after six months of gestation, giving a rate of 3.8% for such fetal deaths. The rate does not seem to be too grossly understated but perhaps is still on the lower side. In practice it is difficult to get a complete record of all abortions and miscarriages. Japanese Fertility Survey, 1952, (4) recorded a fetal death rate of 4.6%. The registered rate for 1950 was 8.4%, but in this case, fetal deaths of not less than 4 months of gestation only were taken into account.

(15.13) Infant mortality

Hyrenius (3) has given data to show that infant mortality affects spacing between births. The median interval for the next birth was 1.62 years when the previous child died within one month of its birth but it was 2.17 years when the death occurred after one month but before one year, and 2.85 years when the death occurred after one year.

From the remarks in the preceding paragraphs, it will be seen that the chances that a woman will conceive in a given month after her

last conception depends on the outcome of that pregnancy, rank order of pregnancy, age of mother, and certain physiological and cultural factors.

(15.2) Physiological processes

Fecundability i.e. probability of conception depends on certain physiological processes. In the ovary, out of a finite stock of about 750,000 ova laid down before birth, only several hundred mature during the entire reproductive life of a woman, the vast majority degenerating spontaneously. At puberty, a complex cyclic relationship is established between the central nervous system, the pituitary and the ovary, which normally culminates in maturation of a single ovum about once in 28 days. Generally, ovulation in women is assumed to occur about 12-16 days before the next menstruation, which itself is an uncertain factor. It is only during a relatively short fertile period that there is appreciable chance of conception. The ovum remains viable for about a day after ovulation and the fertilising capacity of spermatozoa in the female genital tract is for 3 to 4 days. Thus, conception is most likely to occur if there is sexual intercourse any time in the 4 days preceding or a day following ovulation. More specific research into the survivorship of sperm and ova within the female indicates that the average length of the fertile period is almost certainly less than three days and probably less than two days. Potter (9) has assembled three lines of evidence, which collectively suggest that the fertile period is typically less than 48 hours. Contraceptive practices will be successful if they are able to save this fertile period from resulting in conception. The trouble is that a simple method of detecting this period accurately has not yet been devised.

(15.3) Marriage age

Fertility increases rapidly with age before 18 or 20 with the result that the fertility of the 20-24 years age group depends on the average age of marriage of those women married before age 20, and this age may vary considerably from one population to another. Possibly these facts may explain the effects of age at marriage on fertility referred to in paras 11. The maturation of procreative capacity in females sometimes occurs at very early ages, but in rare instances before 10 years of age. Ignoring the factor of impairment of fecundity, the proportion of women who would be able to conceive will at first rise slowly with age with gradual acceleration to some point of inflexion, beyond which it would level off to 100 per cent nearly. This implies that all women are assumed to achieve 'maturity' in reproductive capacity, though some may remain sterile. It does not seem unreasonable to assume

that the relationship of this proportion to age can be represented by a symmetrical curve, having a point of inflexion at the age at which one-half of all women will conceive if fully exposed to risk of conception without any impairment of fecundity. In the light of the evidence reviewed in connection with the theory of 'adolescent sterility', it seems likely that the inflexion point is well beyond the average age at menarche and probably at age 18.0, though its actual location in different populations would vary widely.

Presumably, decline in fecundity due to the accumulation of impairments begins at, or before, the achievement of fully mature capacity for procreation. New pathological conditions are also sometimes brought about by the process of gestation, whether interrupted by miscarriage or completed by a full-term delivery. It is conceivable that maternity under normal conditions may sometimes increase the chances of conception in later years. However, there is also the view that during parturition, impairment of future fecundity may occur.

(15.4) Parity strains

The data on parity women and spacing of births amongst them, given in paras 8 to 10, would seem to suggest that there are strains of women having different fecundity level. There is a lay belief that each woman has her own spacing of births—some have greater and some lesser interval between births. Not only is each strain characterised by differences in the number of children borne in the reproductive span, but also by differences in spacing of births. Higher parity women have smaller spacing, which agrees with their characteristic of higher fecundity.

(16.1) Fertility differentials

Variations in the fertility pattern may occur in the different social and economic groups characterised by religion, educational level, occupation, industry, and income, mainly due to the cultural, social and environmental factors affecting fertility. Much depends on the attitudes and behaviour of individual groups in the matter of procreation and any general statement about their fertility differentials will serve little purpose. Certain field studies have been made which generally show weak differentials for certain characteristics. The subject is of importance, as it is useful in the formulation of policies for modifying fertility levels. In the present article, the topic is by-passed and certain structural factors affecting fertility like order of marriage, age at marriage, duration of marriage and present age, are considered.

(16.2) Order of marriage

It functionally influences marital fertility. It has been observed that widow remarriage is, on the average, not so fertile as the first marriage. Many of such women had already borne children during their first marriage. It is, therefore, desirable to study the subject of fertility with reference to currently married women, who were married only once. The proportion of remarried women in India is around 3%, which is extremely small. Considering practical convenience, fertility studies can as well be made with reference to currently married women, whatever be the order of marriage, as the results are not likely to be vitiated appreciably. Sometimes, studies are made with reference to ever-married women, which include the groups of never-married, widowed, divorced and separated women. Such studies take the composition of marital status as it is, and do not go on to break it down to structural components. The results will be different, if the proportion married changes. The justification for the course adopted seems to be based on practical considerations, as frequently all the ancillary data that one has, relate to all women and not married women only.

(16.3) Marriage age

Age at marriage plus duration of marriage equals present age and hence, only two of the three characteristics involved here are independent. If age at marriage has no influence on fertility or it varies within a very close age range, the fertility rates by attained age will be practically the same as those by duration of married life. As already pointed out in para (11.0), nearly 80% of marriages take place below the age of 18. Thus, in so far as the field studies of fertility are concerned, the factor of age at marriage is generally not of such great importance. However, this is not to say that age at marriage has no effect on fertility. In fact, paras 11 present clear evidence of the importance of this factor for fertility. It affects age specific fertility rates, childlessness, family building, onset of sterility and spacing and the effects conform to the view that early marriages cause a more fertile union. However, there is also a view that the fecundity of some very young brides is impaired by premature cohabitation and pregnancy, and hence quite possibly postponement of very early marriages could increase completed family size.

(16.4) Marriage duration

At this stage, it may be useful to discuss the point whether it is more revealing to study fertility by duration of married life or by woman's attained age. From a practical point of view, age-specific fer-

tility rates are more common. Perhaps the justification seems to be that the ancillary data about distribution of women, needed for applying the rates in any study, are available by age and not by duration of married life. However, in so far as field studies are concerned where data have to be collected, it seems that duration-specific rates are more useful, as duration is the more important and dominant characteristic. It is more useful for analysis of time changes and births by parity. If curves showing fertility rates by duration of marriage are drawn for different ages at marriage, it is seen that the curves are close together showing that age at marriage has a comparatively minor effect on fertility rates, also a high peak in the initial year and decline thereafter to low values indicates that variations in fertility by duration are more significant. Similarly, if curves showing fertility rates by age at marriage are drawn for different durations of marriage, the curves are shifted by considerable distances, which shows the importance of duration of marriage. The curves themselves have a smooth run indicating that the age at marriage has a comparatively minor effect. Again, if curves showing fertility rates by present age are drawn for different ages at marriage, the various curves appear to be displaced from each other. It seems possible to replace these different curves reasonably correctly by a mean curve, which shows that for many practical purposes, age-specific fertility rates can as well do.

(17.) Contraception

Sheps and Perrin (2) have studied the relationship of contraceptive effectiveness to reduction in fertility by a simplified theoretical model based on a study of spacing between births by Markov Renewal Processes, to which the phenomenon of successive births to a group of women seems to conform. For, let us take the case of a recently married woman who is not pregnant and is susceptible to pregnancy. If fecundability be p , the probability of her becoming pregnant in the first monthly menstrual cycle is p i.e. $1-q$, where q is the complementary probability that she does not conceive. Similarly, this probability of conceiving in the second month is $1-q^2$ and so on. For the ninth month it is $1-q^9$. Thus, the probability of conceiving in any month depends on the outcome in the previous month. If $p = 0.5$, among 1000 women there will be 998 conceptions in the first nine months after marriage, and if $p = 0.1$ the number will be 613. On the simple binomial model the numbers will be 4,500 and 900 respectively.

(17.1) Contraceptive effectiveness is defined by the percentage reduction in fecundability. It is taken as the net effect of the biological effect of the specific contraceptive and the efficiency and consistency of

its use. Contraceptives are not all equally safe. The latter factor is more important in India, because of the low motivation of the users. At times, a couple may take a chance in not using the contraceptive, hoping that conception will not occur. Inadequate understanding of the method of use and lack of facilities and practical inconvenience in using a contraceptive consistently, according to the prescribed instructions, impair the efficiency and consistency of its use. While the biological effect of the different contraceptives will have been established by scientific observations and would not differ greatly, the second factor would be based on observation of the actual population using them. This is likely to change with time and is liable to a certain amount of imprecision. Calculations on the basis of different values of the parameters involved show that a contraceptive of higher efficiency is needed to reduce fertility by the same amount as, in the population, originally (i) the level of fecundability is higher, (ii) the 'idle period' is greater, (iii) pregnancies result in a greater fetal loss, and (iv) the idle period of a conception resulting in fetal death is greater. Due to the factor of the 'idle period', the percentage reduction in fertility is usually less than the requisite increase in the effectiveness of a contraceptive. As has already been stated in para 15.1, a contraceptive acts through prolonging the 'conception delay' component of birth spacing. The percentage of eligible population using the contraceptive actually determines the net result. This percentage depends on the acceptability of the particular contraceptive and the motivation. Sheps & Perrin (2) have shown that relatively inefficient contraceptive methods used by a large number will reduce fertility to a smaller extent than would highly efficient methods adopted by a smaller section of the same population. But this is based on the assumption that the original fecundability of the two groups is the same. Actually, more effective methods like sterilisation will be used by persons who have already large families and who, being older, are less fertile. Younger persons with smaller families are likely to adopt less efficient methods. Contraception is adopted by different persons at different stages of reproduction according to their motivation. The difficulty is to foresee how distribution of births by their order will be affected by this practice. There is little doubt that the proportion of higher order births will be reduced and that of lower order births increased. However, it would be unrealistic to assume that all will take to contraception at marriage or after a certain number of births, but this kind of assumption is often made to gauge the likely effect of the practice. Some rough and ready calculations from the data on Jammu & Kashmir made by B. Pichat show that with the use of a 90% effective contraceptive, the spacing will be

doubled. For the sake of simplicity, if the likely effect of increasing the period of fertile life due to an increase in spacing between successive births is ignored, the family size will be reduced by 50% only. Again, if it is assumed that contraception is adopted not immediately on marriage, but after 8 to 10 years of married life, say at age 25, the reduction will be by 30% only. The reduction will be still smaller, say, by only 20 or 25%, if the factor of increase in the period of fertile life is taken into account. If contraception is adopted at later stages in the reproduction span, then it decreases the reduction in fertility associated with the effectiveness of the contraceptive.

(18.1) The type of information on fertility pattern presented in paras 7-11 in Part I concerning age-specific fertility rates, distribution of women by completed family size, number of children born by age of mother and duration of marriage, onset of sterility, birth spacings and the effect of age at marriage on the various indicators of fertility, should be collected more carefully and placed on a firmer basis in quantitative terms. Field surveys for the purpose may be made with reference to currently married women and preferably, those who were married only once. Broken periods between different marriages create a problem. Certain data are to be obtained for women aged 45 and over, who are past childbearing. In such cases, information relating to life-time fertility is to be collected, but this may suffer seriously from recall errors of the Indian populations unless care is taken to probe into the replies given by the informant. It is, therefore, advisable to undertake field enquiries oriented specifically to certain well-defined problems rather than to attempt an omnibus survey. It does not seem quite wise to base conclusions on data relating to women of completed fertility only. Women of incomplete fertility can also furnish useful and perhaps more reliable material, but in such cases, duration-specific data are more revealing than the age-specific. Further, facts about children born can be best obtained by contacting the mother herself. Information supplied by other informants is not likely to be fully reliable. Although the facts required are simple enough, deficiency of recall complicates the problem. In the circumstances, there would seem to be a strong case for conducting small local surveys, which are well-designed and carefully supervised, as part of a systematic programme to build up such information at the State and all India level. The nature of the subject requires that fertility should be studied with reference to social and cultural groups of the population. Administrative units like States have little relevance. However, for the practical purpose of policy formulation, one has to think in terms of States. If

it can be assumed that each State has predominant social and cultural characteristics of its own, State patterns may not be so meaningless.

(18.2) Apart from the general range of items on which information is required, certain specific ones are particularly mentioned below :

(a) *Fertility pattern :*

- (i) Spacing between different order births. It appears that such data classified by parity of women of completed fertility are more revealing.
- (ii) Proportion sterile and its variation with age or order of birth.
- (iii) Age-specific fertility of fecund woman.
- (iv) Proportion of fetal deaths to total conceptions.
- (v) The 'idle period' and period of conception delays and their variations with the order of birth and other social and cultural characteristics. Variations in these periods in cases of live births, fetal deaths and infant deaths.
- (vi) Cultural factors like marital habits, sexual taboos, breast feeding etc., and their effect on spacing and fertility of fecund woman.

(b) *Fertility differentials*

- (vii) Variations in the fertility pattern in different social and economic groups e.g. by religion and other social groups, educational level, occupation and income level.
- (viii) Age at marriage and its effect on fertility classified by duration of marriage and attained age to show family building.

(c) *Contraceptives*

- (ix) Percentage motivated to use different kinds of contraceptives and the factors behind them.
- (x) The effectiveness of the various contraceptives as affected by consistency and efficiency of their use; determining factors.

The range of points, on which information is needed, is so vast that only a systematic programme of data collection can succeed in securing the needed data within a reasonable time limit. India has developed institutions and a large body of workers, but perhaps the lead is yet to come and may be hopefully awaited.

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A DEMOGRAPHIC QUEST FOR FAMILY PLANNING IN NEPAL¹

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The accelerated rate of growth of population throughout the world has created an alarming problem for the planners, demographers, research scholars, politicians, etc. and it has stimulated intensive studies and analysis of the subject. Volumes have been written, assessing and analysing the underlying facts and figures, to consider the likelihood of checking the future population growth, keeping an eye on the all-round development of the nation. Most of the countries of Asia and the Far East have been considering very seriously the probability of a change of outlook for population growth in future, and as a sequel to it, they have launched a programme of planned parenthood.

It is obvious that the cause of world peace and progress will be adversely affected if there is a wide gulf in the economic standards, social status, educational level, etc. between the developed and the developing nations of the world. It is in this light that we are now going to consider the degree of seriousness of the problem in Nepal.

Nepal is situated in the southern ranges of the Himalayas. It shares a common boundary in the South and in the West with India, in the East with Sikkim and India, and in the North with Tibet. The country is rectangular in shape. Its total area is 54,362 square miles.² The average length of the country is 550 miles and the breadth ranges between 85 and 150 miles. The topographic situation has its own peculiarities. The country may be divided into four natural regions—Himalayas, Hills, Valleys and Tarai. The Kathmandu Valley and the Eastern Tarai are thickly populated whereas the Himalayan area is sparsely populated.

The density of population is not at all uniform, as this by and large depends on the peculiar topography of the country. That is why the overall density of population of the country seems to be low when compared with that of many countries in this part of the globe.

1. Paper presented at the Second Conference of the Indian Ocean Region of the International Planned Parenthood Federation, at Kathmandu, Nepal, from 1st-4th May, 1964.

2. It does not correspond to the area of the present territory of the country after the Sino-Nepalese boundary treaty of September, 1961.

The population structure and its characteristics are the basic factors which directly or indirectly affect the three main aspects of population growth or decline—fertility, mortality and migration. Nepal, a developing country, has a hard nut to crack in her effort to deal with the problem of all-round development for lack of sufficient information on many pertinent questions. For the answer to questions pertaining to birth rate, death rate, rate of increase, effects of government endeavour towards the measure of public health by the extension of medical facilities, expansion of educational institutions, establishment of industries etc. on the vital rates, the statistical sources of His Majesty's Government of Nepal cannot supply satisfactory data at present. There is no vital registration system prevalent in the country and as such, the lack of data specially on births and deaths was keenly felt by the administrators, planners and all other social scientists. The Central Bureau of Statistics, with a view to meet their requirements, collected the same for the events which occurred during the year 1960/61, when household enquiries were conducted just prior to the actual enumeration of the 1961 population census which is the only source of information regarding the social, economic and other demographic characteristics of the country. But, as it suffers from the errors of coverage, memory and the like, the above-mentioned data on births and deaths might have been subject to underenumeration,—all the more owing to various psychological as well as superstitious beliefs of the respondent. The crude birth rate and crude death rate as per 1961 population census are 32 and 13 respectively, and the rate of natural increase thereby comes to 1.9 percent.

In the Population Projection for Nepal 1955-75, the projection of vital rates were made under two different sets of assumption—low mortality and high mortality.

<i>Low mortality</i>				<i>1960-65</i>
Birth rate	..	..	..	47.14
Death rate	..	..	..	29.54
Rate of increase	..	..	..	17.60
<i>High mortality</i>				
Birth rate	..	..	..	47.56
Death rate	..	..	..	34.03
Rate of increase	..	..	..	13.53

The above estimation is quite close to the birth and death rates of 45 and 30 respectively for 1961, based on demographic analysis of the 1952-54 census returns estimated by the United Nations.

When the rate of growth on the basis of total population of 1952/54 and 1961 is calculated, it comes to 1.5 percent per year. The above rates of increase cannot be considered high or low unless judged from the viewpoint of at least the food supply and housing facility available in the country. An adult male requires normally 2,800 calories for consumption every day. In India, actual consumption of calories on rough estimates ranges between 1,200 and 1,600 providing for the metabolic rate at 16% below the Western standards. In considering food requirements, not only quantity but quality is also important. A diet should be adequate not only in terms of calories but also in terms of proteins for the growth and repair of the body, and fats and carbohydrates for energy.

In so far as Nepal is concerned, the less said about the consumption of calories, fats, carbohydrates and proteins, the better—partly due to the unavailability of related data, and partly due to the figure available for per capita production of paddy and maize which comes to 5.68 mds. and 2.27 mds. respectively. In Nepal, the alarming nature of the situation will be evident from the fact that the land per agricultural household comes to merely 1.8 *bigha* where 87.70% of total households depend mainly on agriculture for their livelihood. The deplorable condition of the people is all the more aggravated when the consumption of additional food for every marriage amounts ordinarily, to at least what one man would consume during the whole year or even more

It is an acclaimed fact that the consumption of food per capita is the highest in the case of labourers, particularly those who work on land, while the per capita average income is the least in that sector only. Though no such study has been made in Nepal, on the basis of studies made and experience gained by the neighbouring countries, it can be safely said that the above situation is operating in Nepal also.

After the desire for food, the strongest desire of mankind is to take rest. This gives rise to the problem of housing. No housing census has been taken for the whole kingdom of Nepal. A housing census was carried out in 1961 in all the six towns whose population was 10,000 and more according to the 1952/54 census returns. There is a dearth of accommodation in the towns, and poor sanitation, resulting in the outbreak of epidemic diseases like small pox, and in tuberculosis etc.

Table 2 indicates that among those who are married, the female sex, up to the age of 24, is more in number than the male sex, whereas from the age of 25 years and over, the females are less in number than the males. This may be due to the fact that the females are

more exposed to widowhood and the widows are never socially or conventionally allowed to remarry except in a few tribes. Marriage is a sacrament in Nepal and this is easily proved from Table 2. The column of the separated and the divorced shows that the percentage in all the age groups is less than 1. This implies that permanent union is frequent resulting in a high birth rate.

"If the wages of labour in any country be such as to enable the lower classes of people to live with tolerable comforts, we may be quite certain that they will not emigrate; and if they be not such, it is cruelty and injustice to detain them", was the warning given by Malthus in the year 1827. When we look to the figure of the International Trade of the country, it clearly points out our utter dependence on other countries. The figures for import and export for 1958/59, 1959/60, and 1960/61, reveal that Nepal has an unfavourable balance of trade of 85 million, 105 million and 156 million Nepalese Rupees³ respectively. This proves that we have an insignificant number of large-scale industries, or say, medium-scale industries. It leads to unemployment in the industrial field and is a burden on agriculture. This has caused mobilisation of labour. According to the 1961 population census, 321,453 persons are emigrants. Out of this 295,968 persons are in India, 3,010 in Burma, 12,633 in Malaya, 725 in China, 73 in Pakistan and 9,044 in other countries. It can be safely assumed that due to economic pressure they have gone out in search of work.

Agriculture, the main occupation of most of the people in the country, provides only seasonal employment and for the rest of the year, they are left unemployed. This underemployment is caused by the absence of an adequate number of industries and excessive pressure on land. That is why the country is facing the problem of underemployment in the main and partial unemployment. Hence, heavy emigration is recorded in the census. His Majesty's Government of Nepal is very serious about tackling the emigration problem and as a result of this, the development budget of the country has been increasing every year. In the fiscal year 1962/63, the amount allotted for the development work was 165.5 million Nepalese Rupees, while in the current fiscal year, 1963/64, the amount has been increased by 15.5 million Nepalese Rupees.

"Bliss was it in that dawn to be alive
But to be young was very heaven."

Wordsworth's imagination does not seem to be fruitful in so far as Nepal's infant mortality is concerned. The estimated rate of infant

3. One U.S Dollar = 7.68 Nepalese Rupees.

mortality clearly points out that the country has very poor maternity services, and insufficient means to rear newly-born babies and children below four years of age :

<u>Low mortality</u>					1960-65
Males	..	..	..	..	224.65
Females	.	..	..	..	217.48
<u>High mortality</u>					
Males	..	..	..	..	247.99
Females	..	..	..	..	217.48

Out of the total number of deaths reported by age and sex in the 1961 population census, 16.6 percent of the male children and 15.2 percent of the females were found to be below one year of age. Of the total male and female mortality respectively, 44.7% of the males and 43.1% of the females belonged to the 0-4 years age group. This percentage forced us to presume that the deaths, specially for females in the child-bearing age group, are underenumerated. Consequently, the death rate comes to 13 per thousand. When statistical methods will be applied to mortality data, the errors may be detected and the rate may approach 15. Thus, the rate of natural increase would be nearly 1.7 percent, which sounds quite reasonable.

About 0.3 million live births took place in the year 1960, as reported in the population census of 1961. "It is evident that the constant tendency of births in every country to supply the vacancies made by death cannot, from a moral point of view, afford the slightest shadow of excuse for the wanton sacrifice of men. The positive evil that is committed in this case, the pain, misery, and wide-spreading desolation and sorrow that are occasioned to the existing inhabitants, can by no means be counter-balanced by the consideration that the numerical breach in the population will be rapidly repaired. We can have no other right, moral or political, except that of the most urgent necessity, to exchange the lives of beings in the full vigour of their enjoyments for an equal number of helpless infants," declared Malthus. This seems to be particularly relevant in the case of the Kingdom of Nepal.

Though the average size of the family is not alarming as it comes to 5.3 persons per family, the other demographic characteristics of the nation forced us to pause and ponder over them with a view to find out ways and means to restrict the number of births.

It is a universally acknowledged fact that the sources of human happiness would be most cruelly diminished if the prospect of a good

meal and a house for shelter were not incitements sufficiently vivid to give interest and cheer to the people. Since we have seen above that we cannot proportion the food to the population so it is wise that we must attempt to proportion the population to the food. This may be achieved only by planning the family size in a scientific manner.

In Nepal, the low literacy rate and the lack of a good number of large or medium-scale industries have forced the majority of population to draw their subsistence either from agriculture or to emigrate in search of suitable jobs.

That is why it is wise on the part of the administrators and planners to motivate the people towards the practice of family planning. But, before stepping into its actual operation, preliminary studies are essential for a thorough understanding of the existing social and economic situation of the country and its people, and many other factors, psychological as well as others, that have an effect on the human mind towards the subject under discussion. The Nepalese people, known to the outside world for the renowned bravery of the Gurkhas as they are so called, used to willingly join the army and go to the war front, which would naturally result in a high death rate. So, principally for this reason, and also because the country was thinly populated, it has been customary for the older people in the country to bless their young ones on every auspicious occasion with a long life and many, many children. All the more because Nepal is primarily an agricultural country where even in modern times, scientific implements have not been used, thereby leaving the country merely labour intensive. Thus, the need for the large-sized family is quite apparent and consequently it is considered a great privilege and blessing and not a curse—for they may have a claim upon its assistance for their support. Moreover, the people may think that the practice of family planning is an act of unforgivable sin as they will be going against the wish of the Creator and it is by His grace that the child is born in the family.

A well-planned organization should be set up to tackle the problem. The Government should have two different sets of plans, a short period and a long period plan. For the short period plan, the Department of Public Health Services should know about the number of married couples either newly-wedded or having a long-standing union before menopause. They should be educated in the practices of family planning. This can be done by audio-visual aids, by a mobile team consisting of doctors and nurses, if a sufficient number of experts are not available. Through the available mass media of communication, the principles and needs of family planning should be propagated.

The newly-married couple may have the curiosity, a rather intense one, to have an explanation of facts about reproduction and methods of controlling unwanted pregnancy. Familiarity with the subject is an important part of motivation.

It is important to note that while motivating the couple towards the practice of family planning, it is wise to approach the family through the husband, as the male sex is less shy and better educated than the female sex. In Nepal, the wife is always ready to please her husband at any cost. If the husband instructs his wife to practice family planning, she will do it with zeal and happiness.

In the long period plan, the Government should establish family planning clinics in the country in order to extend ready services to the needy people.

Facilities and opportunity should be provided for higher education for both the sexes. This would result in pushing up the age at marriage. The 1952/54 census returns point out that marriage, even at the age of 5 years, takes place in the country.

At the University level, courses on the human reproductive system should be introduced and should be made compulsory for every branch of learning, at least upto the Bachelor's examination.

Finally I would like to stress the point that the power of the earth to produce subsistence is certainly not unlimited, but the passions which prompt the increase of population are always in full vigour and are ready to produce their full effect even in a state of the most helpless ignorance about the reproductive system. Hence, Government should take up the matter seriously before it becomes unmanageable.

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TABLE 1

Present population (urban and rural), area and number of families by region : 1961

Name of Region	Towns	Urban	Rural	Total	No. of families	Average family	Total area (sq mile)	Population per sq. mile
Nepal	6	264,028	9,123,633	9,387,661	1,775,645	5.3	54,362	173
Eastern Hills	—	—	1,882,925	1,882,925	340,085	5.5	10,114	186
Eastern Inner Terai	—	—	175,909	175,909	32,266	5.4	1,829	94
Eastern Terai	2	44,052	2,165,982	2,210,034	450,608	4.9	5,115	432
Kathmandu Valley	3	204,159	252,645	456,804	86,441	5.3	218	2,096
Western Hills	—	—	1,952,530	1,952,530	379,562	5.1	11,076	176
Far Western Hills	—	—	1,398,319	1,698,319	303,433	5.5	18,879	89
Central Inner Terai	—	—	240,824	240,824	39,827	6.0	2,267	107
Western Inner Terai	—	—	98,765	98,765	13,733	7.2	714	138
Western Terai	—	—	400,017	400,017	85,822	4.7	1,307	306
Far Western Terai	1	15,817	255,717	271,534	43,868	6.2	2,843	96

TABLE 2

Marital status in relation to age groups

PERCENTAGE

Age groups	Total		Single or Never married		Married		Widowed		Separated or Divorced		Unstated	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
5-9 years	100.0	100.0	97.5	94.7	2.4	5.2	0.02	0.08	—	—	0.08	0.02
10-14	100.0	100.0	87.8	71.2	11.9	28.2	0.2	0.5	0.04	0.04	0.06	0.06
15-24	100.0	100.0	46.2	17.1	51.8	80.3	1.1	1.9	0.6	0.5	0.3	0.2
25-44	100.0	100.0	5.5	1.4	89.4	85.8	4.2	12.2	0.8	0.5	0.1	0.1
45-64	100.0	100.0	1.4	0.6	85.2	51.9	12.6	46.8	0.6	0.5	0.2	0.2
65 and over	100.0	100.0	0.9	0.5	63.3	23.9	35.2	75.1	0.5	0.3	0.1	0.2
Age unknown	100.0	100.0	34.2	18.4	40.5	55.9	6.7	14.2	1.1	0.7	17.5	10.8

ON THE PROBLEM OF MEASURING THE IMPACT OF F.P. ACTION PROGRAMMES

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Introduction

Several of the developing nations have recently embarked upon all-out programmes aiming to reduce the fertility level of their populations.¹ The relatively more sophisticated programmes among these go beyond disseminating contraceptive knowledge and supplies to emphasize educating the people on the physiology of reproduction, on the advantages to be derived by limiting family size, and on the disadvantages of uncontrolled fertility. It would seem necessary that any serious endeavour of that type should also try to change the people's conception of the interrelationships between husband and wife, and between parents and children. Further, in such programmes, efforts should be made to inculcate in the masses a new view of the life process in which the achievement of socially-valued goals is not seen inconsistent with having fewer children. It is an open question whether such changes in the orientation of the masses can be brought about by mass communication programmes without simultaneous, if not prior, basic changes in the social structure.² To put it differently, it remains to be seen whether, irrespective of the changes brought about in the basic social structure, small family-mindedness can be inculcated in the masses and a fertility reduction effected by means of such action programmes as the ones which combine in one :³ (1) "wide-spread education to create the necessary social background for a large family planning programme", (2) dissemination of birth control knowledge and information, and (3) distribution of contraceptive devices and family planning services.

This important issue is being put to the test in the large as well as small-scale family planning communication and action research projects now underway in various developing countries. One of the difficult problems which researchers in this field are facing, has to do with measuring the "effectiveness" of the programmes.

"Effectiveness" is a useless term in scientific discussion unless its connotation is clearly spelled out. Effective in what respects needs to be defined, and how to measure changes in those respects has to be described. The present paper does not aim to give a systematic treatment of any one of these problems.⁴ Its aim is simply to discuss some of the measurement problems in regard to changes in two important respects :

- (1) Whether the psychological acceptability of family limitation methods and services has increased in a target population, and
- (2) Whether the wives in childbearing years in that population have become, relatively speaking, small-family-minded.

By psychological acceptability we mean two things : one, the acceptability of the contraceptives and the family planning services as legitimate, and two, the recognition of the relevance of these with respect to limitation of family size.

Conventional measures of the impact

The conventional measures that suggest themselves include finding out the number of persons practising contraception, the number of persons sterilized, the pregnancy rate and the birth rate. An increase in the number of continued users of contraception and/or the number of persons undergoing sterilization is indicative of the psychological acceptability of family limitation as also of the trend toward small family-mindedness. Similarly, a significant reduction in birth rate or pregnancy rate may be taken as indicative of the aforementioned trends. But there is a possibility that by looking at these measures, it may not be feasible to discern any significant change, and that is especially true if the measurements are made during the period when the communication and action programmes are in progress or immediately after their termination. There may be a time lag between the various stages of psychological acceptance—awareness of, getting interested in, and acceptance and continued use of contraceptives. During the period of transition from the early stages of acceptance to the later stages, there may not be any significant increase in the number of users or of those undergoing sterilization, and there may not be any significant decline in the pregnancy rate or birth rate. Yet conceivably, the education programme might have switched on a favourable trend. Conversely, even if decline in birth and pregnancy rates are observed, they may

not be indicative of any real change but may merely be reflecting random fluctuations around a sustaining trend. The probability that the observed declines in the rates are misleading in the above sense will be greater when the target population is relatively small which is the case in many of the research programmes. There is a need, therefore, for indices which would throw light on changes in the offing.

Measures of the impact based on family size preference

Several studies have tried to use the number of children considered as ideal by the wives for families like theirs or the number of children preferred by them as indicative of the small-family-mindedness of the population in question. Along with these, several other questions have been tried in various interview studies in order to get meaningful indicators of the change in the basic approach towards the family building pattern. The following are examples of such supplementary questions: "Do you want to have more children?" If the person wants more, "How many more?" "Supposing you were — years old again and were going to get married, how many children would you like to have?"

In many studies it has been found that when questions such as these are put to the wives they invariably choose small numbers, e.g., three or less. On *a priori* grounds it would seem that statements of preference for three children are oversimplifications of the underlying motivational structure.⁵ As Stephan⁶ has put it, it is easy to ask people, "How many children do you want?" It is easy for them to reply: "We want three children," or some other number. But what do they mean by "want"? What are they assuming will be the conditions under which these children will arrive and grow up?..... Should we not find out what assumptions underlie their stated choice?

The present author has illustrated elsewhere⁷ the multiplicity of possible conceptualizations of desired and preferred family size. The difference between these conceptualizations lies in the mode of specification of the frame of reference of the respondent.⁸ The respondent may take into account all factors that she thinks are relevant to making a decision as to having or not having an addition to the family size. The different state of affairs possible with respect to these factors may then be reckoned for the past as well as for the future (See the diagram below).

Diagram illustrating the different conceptualizations of desired or preferred family size

Future	Past	
	Same as what has been the experience of the respondent	Just as the respondent would have liked it to be (looking back)
Just a continuation of today	Conceptualization A	Conceptualization F
Takes the best turn possible	Conceptualization B	Conceptualization G
Takes the worst turn possible	Conceptualization C	Conceptualization H
Takes the most likely turn (as far as one could tell)	Conceptualization D	Conceptualization I
Just as the respondent would like it to be — (the ideal future conditions possible)	Conceptualization E	Conceptualization J

Conceptualization D represents the frame of reference the respondent is requested to take when she/or he is asked: "If you could start your married life all over again and could have just the number of children you want, how many would you want to have?" Suppose the respondent gives a number, say three. Then we may ask: "Why don't you want more or less than three children?" The answer may contain a catalogue of reasons. We may then ask: "And if you had (more money) (more help) (any other reason the respondent may give) would you like to have more than three children?" Here the respondent is instructed to adopt the frame of reference represented in Conceptualization J. In this manner one could construct sequences of questions so as to specify the frame of reference represented by any one of the conceptualizations given in the above scheme. One could obviously expand the above scheme by adding many other conceptualizations.

Expected family size

It should be noted that we implicitly or explicitly include in the frame of reference of the above conceptualizations, the assurance that the respondent can have just the number of children she/he wants to have. In other words, all influences of biological difficulties (fecundity impairment) and technological deficiencies (absence of, or failures in contraceptive practices) are warded off completely.

But such a frame of reference is not appropriate if we want to get through questions regarding family size, measures of psychological acceptability of family planning, though they may lead to indices of small-family-mindedness in the population.⁹ To get measures of the former, it is necessary to instruct the respondent to tell us about her expected family growth after taking into consideration the role of contraceptives in family planning (including the possibility of contraceptive failures) as well as the influence of fecundity impairments on ultimate family size.¹⁰ It is precisely such a frame of reference that is specified in questions concerning the respondent's expected additions to family size: "How many more children do you think you are likely to have in this married life by the time you reach 45-50 years of age?" Depending upon the context in which this question is put, a transitional statement may prove useful. An example of such a statement is: "Now let me ask something about what you think is going to happen in your life in the coming years."

The questionnaire of the Family Building Pattern Study of the Demographic Unit of the Kerala University contains this question.¹¹ The answers we are getting seem to make sense. One should not expect that all the respondents will give a numerical answer to this question. A few, for example 10-20 per cent of the total sample, may give answers such as "God alone knows," "How can I tell you that, it is all up to God." But the point is such answers also are meaningful insofar as they indicate a lack of faith even in the possibility of planning families. Experience has been that the number of persons who fail to give numerical answers to the above question on expected family size can be reduced somewhat by putting to them supplementary questions such as the following: "Many people feel exactly as you do. Yet all of them have some idea as to what is going to happen in the future. What do you think?" And if still no numerical answer is coming: "Alright, what will be the maximum number of children you will probably have by the time you reach 45-50 years of age? And the minimum number?"

Note that questions on expected family size aim to get at a relatively more realistic picture of the family growth. No assurance is included in the frame of reference. Ideal conditions are not presented. As far as possible the actual conditions are approximated.

Very few studies in high fertility areas have made use of questions on expected family size.¹² Suggestions to include such questions in fertility studies in social settings comparable to those of Indian villages may perhaps be looked upon with scepticism. At first thought it would appear that our women may not be able to give any meaningful answers to such questions. That notion seems to stem from the attitude attri-

buted to our women that God alone knows how many children are destined for each person. But if that is the attitude of most of our women, it is worth-while checking whether any change in that respect has been brought about by family planning education programmes. And through the answers to questions on expected family size, we can hope to get a better estimate of the degree of change in that direction than we could from questions on ideal or preferred family size, these latter having in their relevant frame of reference, ideal conditions in which contraceptive failures are ruled out while the frame of reference associated with questions on expected family size approximates the actual conditions as far as possible.

If a large proportion of women in the child-bearing years in the target population of a family planning action programme say: "God alone knows", in answer to questions on expected family size, then that may be taken as an indication of the failure of the programme in making any significant change in the basic approach of the population towards family building. If, on the other hand, the action programme has succeeded in enhancing the psychological acceptability of the family planning methods and services as well as in inculcating small-family-mindedness in the population, then, that change should be seen reflected in the numerical answers to expected-family-size questions; the answers would then cluster around small numbers, e.g., 3 to 5. In the event that the action programme fails to make any impact on certain sections of the population while succeeding in changing the basic approach to the family building pattern of other sections, then we would get a double-modal distribution of expected family size, answers of those influenced by the programme clustering around small numbers and of the others around large numbers.

While the numerical answers to questions on expected family size thus make sense, data on how the respondents arrive at these answers are also meaningful. Many of the respondents would think aloud when these questions are asked. A record of these should reveal many interesting things. Pregnant women who have decided to get sterilized at the time of the coming confinement would reveal that fact. Those who would like to do something about getting pregnant too often, but find their husbands opposing all such measures, as also those who do not propose to do anything about family planning, would tend to give answers based on the experience of their mothers or sisters. Some would base their answers on the number of children "destined" for them in their horoscopes. Social, psychological, and economic characteristics which distinguish these and similar groups of women would, no doubt, help reorganize family planning action programmes.

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- 6 Stephan, F. F., "Possibilities and Pitfalls in the Measurement of Attitudes and Opinions of Family Planning," in Kiser (ed.) op. cit., p. 426.
- 7 Namboodiri, N. K., *Social System and Human Fertility: Toward a Theoretical Framework*, Ph.D. Dissertation in Sociology, Ann Arbor: University Microfilms, 1963, p. 14.
- 8 For an excellent discussion of the role of frame of reference in interviewing, see Kahn, R. L., and Cannel, C. F., *The Dynamics of Interviewing*, New York: Wiley and Sons, (Sixth Printing) 1962, pp. 113-121.
- 9 See Hill, Stycos and Back, op. cit. for an excellent analysis of the degree of inconsistencies that might be present in the simply stated preferences for specified family size.
- 10 As has been pointed out earlier, we are here concerned about measuring changes in the offspring. At the later stages of family planning acceptance, conventional measures will be appropriate.
- 11 The study of the Family Building Pattern undertaken by the Demographic Unit of the University of Kerala focuses on the area currently being covered by the Family Planning Communication Research Project of the University. For details about the area and the characteristics of the population covered, see Tampi, K., "Family Planning Communication Research and Action Programme in Kerala," *Journal of Family Welfare*, Dec. 1963.
- 12 In the industrially advanced countries, on the other hand, questions on expected family size have been found useful for several purposes. See in this connection, Freedman, R., Whelpton, P. K., and Campbell, A. A., *Family Planning, Sterility, and Population Growth*, New York: McGraw-Hill, 1959. In that book, expected family size data have been used to study differential fertility as well for population projection. The expected family size data were collected in 1955. A similar study in 1960 revealed that the anticipated and reported child-bearing during the period 1955-60 were in close agreement. See also, Goldberg, D., Sharp, H., and Freedman, R., "The Stability and Reliability of Expected Family Size Data," *Milbank Memorial Fund Quarterly*, October, 1959, Vol. XXXVII, No. 4, pp. 369-385.

MOTIVATION FOR VASECTOMY

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Maharashtra State has been stressing the sterilization method right from the beginning of the Family Planning Programme. The essential feature of this is the organisation of vasectomy camps through which mass sterilisation is done. The community does not appear to be opposed to sterilisation as can be seen from the progressive increase in the number of sterilisations performed during the first five years, particularly from 1960.

TABLE 1

Sterilisation done in Maharashtra State (1957-62)

Year	Male	Female	Total
1958	1,783	2,774	4,557
1959	3,932	6,911	10,843
1960	17,361	4,647	22,008
1961	15,137	5,569	20,706
1962	22,417	9,225	31,642

As a part of the Action and Research Programme, we were interested to know the factors that motivated a person for vasectomy and also some of the demographic characteristics of the population. Based on field experience, our hypotheses in this regard are :—

- Men with more than four children come for vasectomy,
- Men without any male living child will not come for vasectomy,
- Information regarding the vasectomy is disseminated in the community mostly by sterilised persons,
- The sterilised person acts as a reference individual within the community,

- (e) The health of the mother and child and the economic condition of the family may cause the person to go in for vasectomy,
- (f) Apart from literates, even illiterates are coming forward for vasectomy in appreciable numbers.

Design of the study

A Vasectomy Camp was held from 18th to 22nd December, 1962, at Satara. Nine hundred vasectomies were done here. All these persons had volunteered to undergo the operation. A random sample of 200 persons was taken. Three trained social workers and one Sanitary Inspector interviewed these persons and recorded their replies on a prepared questionnaire. There was no non-response due to the fact that all the sterilised persons had to come to the camp to receive the compensatory allowance.

Age distribution

From the age distribution given in Table 2, it is seen that 67% of the persons who had undergone vasectomy were upto the age of 40 years.

TABLE 2
Age distribution

Age in years	No. of Cases	Percentage
26-30	12	6
31-35	66	33
36-40	56	28
41-45	60	30
46-50	6	3
Total	200	100

With an average interval of five years between the ages of husband and wife, and assuming that the couple remain married during the child-bearing age, this means that 67% of the couples had a further exposure of about 10 years to pregnancy. The mean age of these 200 cases works out to 37 years, and on an average (with a wife aged 32 years) the exposure to pregnancy has been cut down by 13 years.

Income

It was difficult to get information on the sensitive question of income, because interviewees thought that it might embarrass them if personal income was revealed. On assuring them that the whole information

would be kept confidential, they declared their monthly income in kind only (i.e. 50 kgms. of wheat and rice etc.) The rupee equivalent was assessed and Table 3 furnishes the income distribution of the 200 cases.

TABLE 3
Income distribution

Monthly Income In Rupees	No. of cases	Percentage
1 - 50	73	36.5
51 - 100	93	46.5
101 - 150	31	15.5
151 - 200	1	0.5
201 - 250	2	1.0
Total	200	100.00

We are not sure as to how correctly they have furnished information about income, for this information is indeed very difficult to get for several obvious reasons. However, it has been recorded here as it may suggest the broad pattern of income distribution. A monthly income of Rs. 100/- is considered to be poor. The State Government has also considered that if the annual income of a person is Rs. 1,200 or below, then he is economically backward. Now, in our study, 83% of the persons had a monthly income below Rs. 100/-. Is this more (or less) than that existing in a rural community? It is not possible to answer this question because the present income distribution of a rural population is not known.

Literacy

Table 4 gives the standard of education of the 200 cases:

TABLE 4
Educational status

Education	No. of cases	Percentage
Nil (illiterates)	60	30
Upto Primary	100	50
„ Secondary	39	19.5
„ Degree	1	0.5
Total	200	100.00

Of the total number of cases, 30% were illiterate. The remaining 70% were literate, whereas the rural illiteracy (according to the 1961

census) is 78.5 in Maharashtra and the literacy is 21.50%. It seems, therefore, that most of the persons who volunteered for vasectomy were literates who form a comparatively small proportion of the rural community. Thus literacy, or education, acts as a good motivating force for vasectomy also.

Many studies have been made in India regarding attitude towards family planning. All these have shown that education or literacy is one of the most important factors for a favourable attitude towards the regular use of contraceptives, spacing, etc. However, the attitude of the literate community towards vasectomy does not appear to have been studied previously, and our observation shows that literate people are better motivated towards vasectomy also. Furthermore, our expectation, that is, hypothesis (f), is not substantiated, and it is therefore necessary for us to modify the educational activity so as to motivate more illiterate people who, at present, form the bulk of the rural population.

TABLE 5
Occupation

Occupation	No. of cases	Percentage
Farmer	139	69.5
Private entrepreneur	22	11.00
Teacher	20	10.00
Government employee	10	5.00
Private employee	9	4.5
Total	200	100.00

Occupation

Table 5 gives the distribution of occupation of the 200 cases. Farmers formed 69.5% of the cases, and the rest, 30.5%. In the rural community, farmers form more than 69.5% of the population. The high percentage of cases having an occupation other than farming, particularly teaching, is perhaps due to the fact that they are educated, and hence, better motivated.

Vasectomy and the number of male and living children

The frequency distributions of the male living children, and of living children, are shown in Tables 6a and 6b. Cases having two, three and four male living children are comparatively more frequent and

together form a very considerable proportion of the sample, to the extent of 81%. The median number of male living children is three. Cases having one male child form a very small percentage of three in the whole sample.

TABLE 6a

Frequency distribution of male living children among sterilized persons

Male living children	Number
1	6
2	47
3	62
4	53
5	19
6	8
7	1
8	2
9	1
10	1
Total	200

TABLE 6b

Frequency distribution of living children among sterilized persons

Living children	Number
2	4
3	24
4	49
5	52
6	31
7	16
8	10
9	7
10	7
Total	200

There is not a single case without a male child in the whole sample of 200 cases. In the rural community, couples having only one male living child form more than 3% of the population. With regard to living children, it is seen that cases having four, five and six living children are relatively more frequent. Secondly, 86% have four or more living children, which is believed to be in excess of that in the rural population. The median number of living children is five. These observations are in conformity with our hypotheses (a) and (b). The urge to have sons, for various economic and religious reasons, is very well known in our society. It seems from this sample study that persons with three male living children and having about five living children are better motivated for vasectomy.

Who gave knowledge of operation to the community ?

There are about a dozen agencies from whom the community is expected to gain knowledge regarding vasectomy. The best agency is the Social Worker as is seen from Table 7. The Gram Sevak, Sarpanch and Sanitary Inspector also play a considerable role in this respect.

TABLE 7

Agencies that gave information for vasectomy

Agency	Number	Percentage
Social Worker	48	24.0
Gram Sevak	31	15.5
Sarpanch	26	13.0
Sanitary Inspector	21	10.5
Sterilised Person	16	8.0
Secretary, Gram Panchayat	16	8.0
Press	10	5.0
Friends	10	5.0
General Meeting	8	4.0
Block Development Officer	7	3.5
Employee	5	2.5
Posters	1	0.5
Orientation Camp	1	0.5
Total	200	100.00

In the community at present, information about the vasectomy operation is still given by the Social Worker, the Gram Sevak and the Sanitary Inspector who are bound by duty. As others (except the Sarpanch) have not played an appreciable part, it seems that the intra-community process of education regarding vasectomy is still in a rudimentary stage. Vasectomy, as a means of limiting the family size, can only be established when intra-community education starts. It will also be necessary to educate community leaders regarding vasectomy. One would have anticipated that the source of information would be sterilised persons. But this expectation, our hypotheses (c) and (d), has been belied in this study. It is observed that by and large, the sterilised person has still not emerged as a powerful and convincing source of information to the community. Our educational efforts should also be directed towards these persons so that they may play a better part in the future.

Relationship of the sources of information to the age and literacy of the sterilised persons

In the subsequent two tables, we have recorded the sources of information given with respect to age and literacy of the sterilised persons with a view to finding out if there is any association between

the two. Such association is possible, as for example, some agencies might have belonged to relatively younger age groups and they might feel shy to talk to those who are older on subjects such as sterilisation, contraceptives, etc., in our society. Similarly, some agencies might be prepared to talk only to literate people. However, such bias may not be there in the case of Social Workers and Sanitary Inspectors because they are specially trained and strictly told to speak to all eligible persons regarding family planning. In this study, broad classifications and important sources of information are chosen so that the data may be more meaningful.

TABLE 7a

Sources of information for vasectomy with relation to age

Age in years	SOURCE						Total
	Social Worker	Gram Sevak	Sarpanch	Sanitary Inspector	Sterilised persons	Secretary G. P.	
26-35	19	19	7	11	4	5	65
36-50	29	12	19	10	12	11	93
Total	48	31	26	21	16	16	158

$X^2 = 10.869$, d.f. = 5, probability = 0.054

$X^2 =$ (excluding Gram Sevaks) = 4.625, d.f. = 4,

Probability = 0.30 < P < 0.50

It is seen from Table 7a that the proportions of Gram Sevaks and Sanitary Inspectors are more in the 26-35 years age group (that is 19 out of 65, and 11 out of 65) than the corresponding proportions in the 36-50 years age group. On the other hand, the proportion in the case of the Sarpanch, sterilised person, and the Secretary of the Gram Panchayat, is more in the 36-50 years age group, when compared with the respective proportions in the 26-35 years age group, the proportion of the Social Workers being almost the same in the two age groups. However, the observed differences in the two age groups, except the Gram Sevaks, were not statistically significant.

As regards literacy, it is observed from Table 7b that the Sarpanch and the Secretary of the Gram Panchayat have higher proportions in the illiterate group (that is 11 out of 51, and 10 out of 51) while the Social Worker and the Sanitary Inspector have higher proportions in the literate group. The Gram Sevak and sterilised person have almost the same proportion in the two groups. Here again, the observed

differences in the proportions of the various sources of information regarding vasectomy in the two groups of literacy, except that of the Secretary of the Gram Panchayat, were not statistically significant.

TABLE 7b

Sources of information given for vasectomy in relation to literacy

Literacy	SOURCE						Total
	Social Worker	Gram Sevak	Sar-panch	Sanitary Inspector	Sterilised person	Secretary, G. P	
Illiteracy	12	9	11	4	5	10	51
Literacy	36	22	15	17	11	6	107
Total	48	31	26	21	16	16	158

$X^2 = 11.131$, d.f. = 5, probability $0.02 < P < 0.05$

$X^2 =$ (excluding Sec. Gram Panchayat) = 3.729 d.f. = 4

Prob = $0.30 < P < 0.50$

No explanation is suggested as to why the Gram Sevak shows a fall out from the rest as regards age (Table 7a) and the Secretary, Gram Panchayat, as regards literacy (Table 7b). It is perhaps necessary to know in detail characteristics such as age, literacy, attitude, etc. of these two agencies (Gram Sevak and Secretary, Gram Panchayat) before offering a possible explanation.

Prior consultation with persons who had undergone sterilisation

It was our expectation that most of the people desirous of undergoing vasectomy would seek prior consultation with sterilised persons to know their opinion and feeling, and only after getting a favourable reply would they make up their mind about vasectomy. Now in our sample, only 132 or 66% had previously consulted sterilised persons and 34% had come directly without meeting the sterilised persons. Does this suggest the starting of a tendency to allay fear and misconception about vasectomy in the minds of persons wishing to undergo it? We are inclined to think so, based on field experience, although more data is required for clear evidence in favour of this opinion.

Table 8 gives actual information gathered on vasectomy by these 132 persons, from the sterilised persons, before coming for the operation. Of course, those who received adverse information might not have come for the vasectomy.

TABLE 8

Information gathered on vasectomy prior to undergoing it

Information	Number of persons	Percentage
There is no pain after the operation	29	21.9
The operation is easy	21	15.9
The operation is meant for birth control	21	15.9
The operation is good for the health of the wife and the children	12	9.1
The operation is harmless and improves health	18	13.6
The operation increases sexual enjoyment	9	6.8
There is no physical and mental disturbance arising from this operation	8	6.1
After the operation, for some time, contraceptives should be used to avoid pregnancy	7	5.3
The operation does not cause impotency	4	3.1
After the operation, there is no further cause for worry	3	2.3
	132	100.00

Reaction of the wives as regards vasectomy of their husbands

The reaction of the wives regarding vasectomy of their husbands was ascertained. Their replies are furnished below :—

TABLE 9

Wife's reaction to her husband's vasectomy

Reaction	No. of persons	Percentage
Favourable	122	61
Uncommitted	74	37
Unfavourable	4	2
Total	200	100

It is observed that 61% of the wives responded favourably, and 37% were uncommitted. Those not in favour formed a very small percentage of two. As far as uncommitted and unfavourable wives are concerned, they had given their written consent favouring their hus-

bands' vasectomy which was inconsistent, as seen above, with their reaction. Were they, then, compelled to give their consent? Our enquiry could not cover an answer to this question. It is possible that they did not care either way, and it is also likely that the husband, being a more dominant figure in our society, might have exhorted his wife to give her written consent. However, the question requires probing. The reaction of the wife regarding vasectomy is shown against age and literacy of the husbands in Tables 10a and 10b with a view to find out whether these factors have any relation.

TABLE 10a

Reaction of the wife in relation to age of the husband

REACTION				
Age in yrs. (Husbands')	Favourable	Uncom- mitted	Unfavour- able	Total
26-35	42	35	1	78
36-50	80	39	3	122
Total	122	74	4	200

D (observed) = 0.473. D at 5% level of prob in the Kolmogorov-Smirnov test = 0.1972. Observed Prob > 0.05

It is seen that the percentage of uncommitted wives was less in the 36-50 years age group (that is 39 out of 122 = 0.32 or 32%) than that in the 26-35 years age group (45%).

TABLE 10b

Reaction of the wife in relation to the literacy of the husband

REACTION				
Literacy	Favourable	Uncommitted	Unfavourable	Total
Illiterates	42	17	1	60
Literates	80	57	3	140
Total	122	74	4	200

D (observed) = 0.1286 D at 5% level of prob in the Kolmogorov-Smirnov test = 0.1972 observed Prob > 0.05.

The percentage of uncommitted wives was more in the literate group (that is 57 out of 140 = 0.41 or 41%) than that in the illiterate group (28%). However, the observed differences in the two tables were not statistically significant. It seems that the reaction of the wife has nothing to do with the age and literacy of the husband.

Who made the decision ?

This question was taken up specially to find out the person(s) responsible for urging the present cases to go in for vasectomy. From Table 11, it is seen that self-decision accounted for 52% and this was the highest single force, indicating that by and large, the husband persuaded himself to undergo vasectomy. In 20% of the cases, the decision was made jointly by husband and wife. Friends and wives appear to have played some role in this respect to the extent of 8% and 7.5% respectively.

TABLE 11

Replies to the question "Who made the decision?"

Reply	Number	Percentage
Self	104	52
Self and wife	40	20
Friend	17	8.5
Wife	15	7.5
Employer	8	4.0
Social Worker	6	3.0
Gram Sevak	3	1.5
Sarpanch	3	1.5
Doctor	4	2.0
Total	200	100.00

Further analysis was made to find out whether there was any relationship between the important categories of decision and the age and literacy of the sterilised person. There was no clear statistical evidence regarding this point.

TABLE 12a

Categories of decisions for vasectomy with relation to the age of the sterilised persons

CATEGORIES OF DECISION

Age in Years	Self	Self & Wife	Wife	Friend	Total
26-35	39	16	6	4	65
36-50	65	24	9	13	111
Total	104	40	15	17	176

$$X^2 = 1.575, \text{ d.f.} = 3, \text{ Prob} = 0.50 < P < 0.70$$

TABLE 12b

Categories of decisions for vasectomy in relation to the literacy of the sterilised persons

CATEGORIES OF DECISION

Literacy	Self	Self & Wife	Wife	Friend	Total
Illiterate	35	12	2	1	50
Literate	69	28	13	16	126
Total	104	40	15	17	176

$$X^2 = 7.410, \text{ d.f.} = 3, \text{ Prob} = 0.05 < P < 0.10$$

Why vasectomy ?

The reasons for undergoing vasectomy are given in Table 13. It seems that too many children and poor economic conditions were the most important reasons for deciding to undergo the operation. During the course of the interview, it was found that 33 wives had originally objected to their husbands' vasectomy. However, the husbands in these cases, successfully convinced them about the need for the operation, the main reasons offered being poor income, many children and the health of the wife.

An attempt was also made in this study to know how many of the vasectomised persons would now communicate the idea of vasectomy to others in the community so as to motivate them for sterilisation. It was found that five of the 200 cases did not want to tell anybody and 151 cases wanted not only to give information regarding vasectomy, but were also willing to tell the people that they themselves had undergone it. The remaining 44 said that they would only communicate information regarding vasectomy. It remains to be seen, however, how far they will do this. Further, these 195 cases were asked to explain why they wanted to tell others about vasectomy. Table 13 gives their reasons. Too many children, again, forms the most important reason for telling others to undergo vasectomy.

TABLE 13

Reasons for telling people about vasectomy

Reasons	Number	Percentage
To save them from the burden of too many children	141	72.3
To help	28	14.4
For knowledge	16	8.2
National need	7	3.6
Poor economic condition	3	1.5
Total	195	100.00

Summary

1. A study of some demographic characteristics and motivating factors for vasectomy has been made here on the basis of a probability sample of 200 vasectomised persons. It is possible that there may be response errors which are not infrequent in all surveys of this type. This was not assessed for various administrative reasons and to that extent, the data and observations made here may have some limitations. However, they suggest a broad pattern and seem to agree closely with the relevant material published in various journals.

2. It is seen from the present analysis, that the average age of persons who volunteered for vasectomy was 37 years. Literate husbands appeared to be better motivated. Too many children (usually five) and poor economic conditions were the compelling factors to undergo vasectomy. In a few cases, the reason that too many children would spoil the health of the mother was also given by the husbands to convince their wives about vasectomy. The existence of a male living child was, of course, very essential. The norm seems to be for persons to have three male living children before making up their mind about vasectomy.

3. Information on vasectomy was disseminated generally through the Social Worker, Sanitary Inspector, Gram Sevak, Sarpanch, and Secretary of the Gram Panchayat. The Social Worker was however the best source, and the sterilised persons did not play an appreciable part in this respect.

4. Thirty-four per cent of the total cases did not consult any sterilised person prior to coming for vasectomy. Self-decision was the most important factor for undergoing the operation.

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FEAR AND POPULATION GROWTH

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In the evolutionary process, survival of the species is the primary consideration to which all else is subordinate. According to Herbert Spencer, the means of preservation of species are two, viz. individuation and genesis. Individuation is the development and power with which individuals of the species are endowed for defending themselves against external dangers and protecting their own lives, and genesis is the capacity of the individuals of the species to generate new individuals as a result of which loss of numbers due to death is compensated. When a species is unable to contend with external dangers, there must be great fertility to compensate for the consequent mortality, otherwise the race must die out. When, on the contrary, high endowments give much capacity for self-preservation, a correspondingly low degree of fertility is requisite. Charles Darwin has also noted that large numbers of seeds or eggs are produced to make up for much destruction at some period of life.

The inverse relationship between powers of self-preservation and multiplication is generally valid. The rabbit has no means of self-defence except running capacity and easily falls prey to predation; but it makes up for its defencelessness by great fertility. The elephant, on the other hand, is rarely attacked and produces, on an average, only six offspring during its life-span of about one hundred years.

The important point which requires consideration is the mechanism which produces great fertility in species which are subject to environmental insecurity. The first biological reactions to insecurity are tension and fear. A sense of fear would stimulate the adrenal glands and the consequent secretion of adrenal hormones would increase cardiac output. Generally speaking, the metabolic turnover would be increased. In biology, it is accepted as a general hypothesis that greater metabolic turnover is associated with greater fecundity. Shrews, for example, have a high metabolic activity and great reproductive ability. Systematic biological evidence to show that animals which are the most easily scared have the greatest fecundity is not available mainly because it is not easy to objectively and quantitatively assess fear. Consequently there has been no correlation between fear and fecundity. Nevertheless, fear, being the primary direct outcome of environmental insecurity,

appears to be the only biological mechanism through which increased fertility might result. It is true that such a hypothesis would require substantiation by laboratory studies which may reveal details of how greater fertility results from hormonal activity arising from stimulation of the adrenal gland caused by fear. In the meantime, the conclusion that greater fertility results from greater fear appears so inevitable that until there is definite biological evidence to the contrary, we may proceed on the assumption that capacity for reproduction is connected directly with the ability to be afraid. The biological mechanism of fertility operating through fear may now be examined with reference to human population.

Several studies have been made on the correlation between socioeconomic status and fertility and the general finding is that the crude birth rate is higher among the poor than among the rich. This is a rather broad finding and considerable diversity of opinion exists in the marginal cases, but generally speaking the inverse relationship between richness and fertility is not seriously questioned. The truth of this may be seen by comparing birth rates of affluent societies of Europe against the populations of India and China. If, however, objection is raised on the basis of different climatic conditions, the same conclusion can be reached by examining the birth rates among the richer and poorer classes within the same society. Much weight cannot be given to objections based on climatic conditions when we remember that birth rates in European countries were high at the turn of the century and have decreased with increasing prosperity. It would be fair to conclude that affluence causes a reduction in fertility. The inverse relationship between powers of self-preservation and multiplication in the animal world generally, and affluence and fertility in human population, are clearly the same when it is considered that survival in a human society is possible if one has money or its equivalent.

Various possible explanations may be given as to why the rich have less children, e.g. (1) excess food consumed by the rich causes a plethoric state which is not conducive to fertility, or (2) ability to purchase and consume a high proportion of protein food reduces reproductive ability, or (3) the rich deliberately limit their family by contraceptive methods. None of these satisfactorily explain why the poor have larger families than the rich. If we do not take into account the explanations based on food, we come to the basic question as to why it is that the rich are able to limit their families while the poor are more prone to have larger families.

Ability to limit the family by an individual depends entirely on his ability to exercise adequate restraint at the appropriate time. Whatever be the method of contraception employed, it amounts to a certain amount of sacrifice of the total pleasure. Statements like "We want more children", "For looking after us in old age", "More hands for work" etc., to explain an unrestrained family in spite of economic distress are mere rationalisations. Questioning on motivation cannot elicit correct answers because man as a social animal is constantly required to act in a manner contrary to his natural inclinations and make untrue statements. The true position is that the poorer section have more children because they cannot help it.

It has been said about the poorer section of the Indian population that lack of knowledge of contraceptive methods or lack of purchasing power prevents the masses from practising family limitation. But this argument is untenable in the case of the relatively higher birth rate among the poorer section of the European population compared to their richer section, since the former have both the knowledge and purchasing power necessary for practising contraception. It would be logical, therefore, to tackle the problem from a psycho-biological viewpoint on the basis of the assumption that the poorer classes are less able to restrain themselves from having children. Stated simply, the poorer class has greater sexual intensity which makes control relatively more difficult. Let us examine what this means and why this should be so.

Human activity may be broadly divided into two categories viz. voluntary and compulsive. By voluntary is meant action undertaken out of free will and which if not properly executed would cause no suffering. Compulsive action is that which is undertaken at someone else's bidding and in which there is risk of displeasure of the bidder if the execution is not satisfactory. The difference between the activity of the rich (i.e. those belonging to the higher socio-economic status) and the poor is that the majority of the actions of the rich are voluntary whereas in the case of the poor they are compulsive. The richer a person is, the more capable he is of acting voluntarily. He compels the less rich to act according to his bidding. Now, it can be clearly seen that voluntary actions are free from the element of fear whereas compulsive action is backed by a threat—hidden or open. It is easy to see that the poor who continually undertake compulsive actions are regularly subject to tension resulting from fear. This tension, built out of compulsive activity, would seek discharge and relief. And the most natural, pleasant and readily adopted method of discharging psycho-biological tension is the sex act.

It has been well established in the field of psychology that pleasure generally, and that in the sex act particularly, consists in the discharge of tension. It follows from this that the higher the level of tension, the more intense the feeling. It also follows that when discharge of tension takes place with great intensity, it will be difficult to interfere with the process. When this aspect of the sex act is taken into consideration, it should not be difficult to understand why the relatively poor, who have to do more of compulsive work, are less able to restrain themselves. The lower ability is due to the high intensity with which the tension requires discharge. The intensity introduces an element of urgency as a result of which contraceptive precautionary measures are ignored. Thus, the probability of the poor classes having a relatively larger family is due to their lower ability to restrain themselves at the time of the sex act. The lower ability is the consequence of greater tension due to fear arising from regular execution of compulsive work.

A close relationship between anger and fear and sexuality have been noted by several authors and notably by Havelock Ellis in "Psychology of Sex". Reaction to an unpleasant stimulus (likely to arise in compulsive work) is either fear or anger. Anger corresponds to the male aspect of sexuality and fear stands for the female part. From this standpoint also unpleasant situations may give rise to tensions which lead up to their sexual consequences.

Various forms of objections may be raised and individual cases are likely to be cited when someone very courageous had a large number of children. Individual variations may admittedly be there and the relationship between fear and fertility, as presented here, has to be accepted as of a broad socio-biological significance. But even among individuals, it is quite likely that those who have a high metabolic rate (i.e. the more excitable persons) would have greater fertility. Greater fertility would also introduce a greater proportion of failure in adopting contraceptive measures due to reasons already cited.

It may now be accepted that, by and large, as a socio-biological rule, there is a direct connection between fear and fertility. Although it is realised that the words "insecurity" or "stress" would be more generally acceptable, the word "fear" is being used intentionally for its directness.

Several interesting conclusions follow :

(1) Increase in social security measures would tend to reduce the birth rate. The concept of social security defies precise definition and therefore quantitative comparisons cannot be undertaken. It is extremely difficult to specify factors in a social system which would give people

a sense of security. Full employment with assured minimum level of wages and free medical attention are important factors, but these are not all. A sense of freedom resulting from observance of principles of natural justice, high moral standards in all dealings, and a minimum of social hypocrisy and restraint are probably equally important factors. The inverse relationship between social security and population growth may be borne out by the case of the Swedish population. Sweden is said to have the most elaborate social security system and the birth rate of the Swedish population is among the lowest in the world.

(2) The French population had ceased growing in the decade prior to the Second World War when even incentives could not cause an increase in the birth rate. But after the French population underwent the insecurity and terrifying influence of the war, fertility increased and population growth in post-war France has been steady. The growth was partly due to a fall in the death rate, but more because of a pronounced increase in the birth rate. A similar spurt in the French population was also noticeable after the First World War. In the case of the other European countries, the growth is not so remarkable as in the case of France because in these cases population had been growing all the time.

(3) There is an inverse relationship between life expectancy and fertility for different countries which has been shown in an earlier paper by the author.*

* Banerji, B. K., "Why Are Women Living Longer", *Journal of Family Welfare*, June 1963, p. 30.

EVALUATION OF THE CONDOM METHOD

DR. (SMT.) KATAYUN VIRKAR

(Asst. Research Officer, Reproductive Physiology Unit,
I.C.R.C., Bombay)

The Family Planning Clinic at Suparibaug was established under the auspices of the Indian Cancer Research Centre with the idea of carrying out a field study with foam tablets at the Centre. Later, diaphragms and jellies were also distributed and, since January 1961, condoms have been included among the contraceptives available at the Centre.

A physical examination of the female partner is carried out before issuing tablets, diaphragms or jellies, but in the case of couples choosing the condom method, the contraceptive is issued without insisting on a physical examination of the wife.

During the period from January 1961 to December 1962, 337 couples attended the clinic, and of these, 115 couples chose the condom. Only 15 women subjected themselves to an examination because they had some gynaecological complaints.

Age of the husband

The youngest husband who chose the condom method was 21 years old whereas the oldest was 56 years old. The majority of the men were in the 31-40 years age group.

TABLE 1
Age of the husband

Years	No.
21-30	42
31-40	56
41-50	11
Over 50	2
Age not noted	4
Total	115

Educational status

The majority of the husbands had received secondary school education and twelve had attended college.

TABLE 2

status

Education						No.
No education	..	..	..	..	..	10
Primary school	..	..	..	..	..	19
Secondary school	..	..	..	..	..	70
Undergraduate	..	..	..	..	..	6
Graduate	..	..	..	..	..	6
Not noted	..	..	..	..	..	4
Total	..	..	..	..	..	115

Income

The highest income recorded was Rs. 1,000/-, while three cases stated that they were unemployed. The majority of the husbands were earning between Rs. 100 and Rs. 300 per month.

TABLE 3

Income of the husbands

Income						No.
Nil	..	..	..	..	..	3
Less than Rs. 50	..	..	..	..	..	2
Rs. 51-100	..	..	..	..	..	12
Rs. 101-150	..	..	..	..	..	46
Rs. 151-300	..	..	..	..	..	40
Rs. 301-500	..	..	..	..	..	4
Over Rs. 500	..	..	..	..	..	2
Not noted	..	..	..	..	..	6
Total	..	..	..	..	..	115

Choice of contraceptive

66 couples chose the condom as the initial method of contraception, while 42 couples changed from foam tablets and 7 couples from diaphragm and jelly.

TABLE 4

Choice of contraceptive

Reasons for changing	From F. T.	From D & J
Considered condom a safer method	14	1
Complaints with previous methods	11	—
Pregnancy with previous method	2	—
Disliked previous method	1	2
Husband against previous method	3	—
Wife unwilling to use contraceptive	4	—
Previous method inconvenient	3	3
Previous method unsuitable due to prolapse of cervix	—	1
No stock in clinic	3	—
No reason discovered	1	—
Total	42	7

TABLE 5

of Method

	No. of couples
Used condom alone	65
Used condom combined with other method	14
Did not use condom at all	32
No information available	
Used condom while wife was already pregnant	4
Total	115

Only one husband complained that he had no sexual satisfaction and for that reason the couple changed to foam tablets. Neither the wives nor the husbands of the remaining 78 couples who used the method had any complaints.

Out of the 79 couples who used the method, 58 continued to use it, 7 changed to another method, 9 couples stopped using it and 5 couples left the area or changed to another clinic.

TABLE 6

Reasons for changing method

Reason for changing	No. changed to	
	F. T.	D & J
No sexual satisfaction	1	—
Preferred to use foam tablets	2	—
Felt safer with another method	1	3
Total	4	3

TABLE 7

Reasons for stopping

Reason for stopping					No. of couples
Sterilisation	..	..	..	..	1
Planning pregnancy	..	..	..	..	3
Lazy to come for stock	..	..	..	..	1
Reason not obtained	..	..	..	..	4
Total	..	..	..	..	9

On evaluating the effectiveness, we found that the pregnancy rate with the condom was lower than that obtained with other methods. We also found that most of the couples used the condom regularly and very few took risks.

Regular months of use	Irregular months of use	Total months of use	Pregnancy
523	28	551	7

$$\text{Pregnancy rate for 100 years of exposure: } \frac{1200 \times 7}{551} = 15.06$$

This is relatively low when compared with the pregnancy rate of 47.1 per 100 years of exposure with foam tablets, and 25 per 100 years of exposure with diaphragm and jelly, as obtained in the clinic.

The low pregnancy rate once again confirms the fact that for a contraceptive to be successful in lowering the birth rate in Eastern countries, it must not only be effective, but must also be congenial and acceptable to the people using it.

Of the seven cases of pregnancy, three were due to method failure (the condom having slipped in one case), and four were due to irregular use of the condom.

Conclusion

The condom method is found to be effective and acceptable and should be more widely advocated in family planning clinics.

BIRTH RATE AND AGE AT MARRIAGE

Commenting on the birth rate and age at marriage, the *Planned Parenthood Bulletin* of May, 1964, refers to observations in a survey by the Institute of Economic Growth, New Delhi, which has come to the conclusion that if no girl is allowed to marry before 19, the birth rate can be halved in about 20 years. The study showed that in seven States situated in central and north India, the mean marriage age for girls in rural areas is below 15 and in some States as low as 13.5.

It may be interesting in this connection to consider the situation in Kerala State which has the highest density of population, a steadily maintained population growth and the highest level of female literacy. In a survey carried out in 1962 by the Family Planning Communication Research Project of the Kerala University (a brief report on which was made by me in the *Journal of Family Welfare*, December 1963), it was noted that in 21,926 families studied in a rural area, the average age at marriage for males was 25 and that for females was 18. In this group there were only 3,212 females who were below 15 years at the time of marriage. 11,925 females were married during the ages 15-19, 5,354 during the ages 20-24 and only 940 during the ages 25-29. In this group the number of first pregnancies were 383 among females below 15 years, 10,958 in the age group 15-19, 7,840 in the age group 20-24, 1,398 in the age group 25-29 and only 380 in the age group 30-34. Postponement of marriage to age 19 and above may no doubt reduce considerably the number of children born to females in age groups below 20, but considering the long period of fertile married life ahead, it is doubtful if it will help in keeping down families at reasonable sizes. The birth rate in this area in 1963 was 35.

The average number of children born to each married female in this study was only 6.4 among those who have completed their child bearing age i.e. 50-54. The average number of children born to those in the age group 40-44 was 5.9. In the age group 35-39 it was 5.5, in the age group 30-34 it was 4.6, in the age group 25-29 it was 3.2, in the age group 20-24 it was 1.6 and in the age group 15-19 it was only 0.6. It is obvious from this that for any appreciable reduction in the number of children, the age at marriage has to be postponed to at least 25. A reduction in the age at marriage to 19 as suggested in the survey by the Institute of Economic Growth, New Delhi, can produce little effect on family size as far as Kerala is concerned. Other

methods will have to be considered for any appreciable reduction in family size.

It is seen from an analysis of the births registered in this Project in 1963, that 47% of the births were of the 4th or higher order. An intensive sterilisation programme directed at the mothers who already have three or more children appears to be the most effective method for keeping families within a reasonable size and the education campaign for this purpose can be usefully limited to mothers in the age group 25-29.

Similarly, the main target group for an education programme for popularising the use of contraceptives and for organising family planning clinics or depots for supply of contraceptives, may be mothers in the age group 20-25.

Limiting intensive family planning programmes to specific groups in this manner will help in more effective work with the available staff of trained workers, in areas where such groups can be listed from survey or other records.

Dr. N. Krishnan Tampi

*(Director, Family Planning Communication
Research Programme, Kerala University)*

NOTES AND ABSTRACTS

F. P. TRAINING CAMP AT ARMORI

The Family Planning Training Centre of the Matru Seva Sangh, Nagpur, held its sixth training camp at Armori, in Chanda District, Maharashtra, from 9th to 24th April, 1964, to give practical training and experience to trainees in the rural areas and to motivate the villagers for family planning. There was a comprehensive programme consisting of a survey, home visits, mass and group talks, film shows, supply of contraceptives, vasectomy camp, etc.

The survey, conducted by the trainees to elicit information about the pattern and size of the family, education, income, occupation, etc., revealed that only about 10% of the town's population of nearly 10,000 persons had heard about family planning, and only a small proportion of these were from the educated group. The home visits enabled the trainees to give information about family planning and the various methods of contraception. Many women visited the clinic started at the camp for advice.

The trainees also visited 10 villages in the Armori Block where they organised meetings and held film shows which aroused considerable interest in family planning. The Block Development Officer, Gram Sevaks, and doctors of the Primary Health Centres, also participated in these meetings.

Nearly 2000 families were contacted for family planning education and about 100 persons were given contraceptives at the clinic during this period. Eight mass meetings and 12 group meetings were held and these were attended by about 3500 persons.

A vasectomy camp was held in connection with this camp on 22nd and 23rd April, and fifty-eight operations were performed. Nearly fifty per cent of the persons operated upon came from the town itself; the remainder, consisting mostly of farmers and labourers, came from the adjoining villages. It is significant that patients from the town included persons of some standing in the community like school teachers, government servants, and businessmen.

POPULATION OF CHINA NOW 750 MILLION?

One quarter of humanity was counted last June under strict conditions and in remarkable secrecy. Reports from visitors and emigrants

now confirm that China undertook her decennial national census on June 30, 1964,—exactly one year late.

The previous census was in June 1953, but last summer China was still disorganised from the twin blows of its economic crisis and the Russian dispute. Eleven years ago, China claimed a population of 583 million people (excluding 19 million overseas Chinese and Taiwan).

Since then, official statements have admitted a population growth rate of 2 per cent annually and the Premier, Chou En-lai, said in Conakry earlier this year, that the rate had now "gone up again to 2.5 per cent". At a conservative estimate, therefore, China's present population is a little short of 750 million.

The first definite news of census reached Hong Kong in June, when travellers reported having seen posters in Canton announcing a census on June 30. The census was not reported in the Chinese press and officials in Peking apparently still refuse to confirm that a census has taken place.

But sufficient reports and evidence of travellers have accumulated to satisfy diplomatists that a census was held. It will presumably be several months before the total figure will be known to the Chinese and there is speculation that in view of the secrecy surrounding the census, the figure might not be published but kept for the use of China's planners.

Over the past two years, Chinese officials and the press have shown increasingly serious concern about the population growth. They no longer state, as Chen Po-ta, a leading Peking editor, wrote only eight years ago: "China can find room for another 600 million people at least."

Authorities are bringing pressure on young people to delay marriage, and sterilisation and abortion are on the increase. Chinese officials have been to Japan to study how the Japanese overcame their population explosion and Japanese experts have gone to China to give advice.

Now couples bearing a third or fourth child do not receive extra rations and this provides a strong new deterrent to the raising of big families.

At last the Chinese leaders seem convinced that they must abate the population explosion if they are to get off the mark economically. (Extracted from *"The Guardian"* (U.K.), 27th July, 1964)

FAMILY LIFE EDUCATION FOR THE HANDICAPPED

In an article published in the *International Journal of Health Education*, Mrs. Medora S. Bass, Vice-President of the Human Betterment Association for Voluntary Sterilization, New York, discusses the need for providing education in family living and genetics to handicapped children. She affirms in her article, "Instruction in Family Life for the Handicapped", that these children are in greater need for such education than normal children because they receive less instruction from their parents and their peers, and because they are "naive and may be taken advantage of if not forewarned about sex". Also, these children are likely to be more susceptible to sexual impulses "due to limited activity, lack of gratification in other areas, and frequent rejection".

"In cases of severe hereditary defect," Mrs. Bass adds, "childless marriages have been recommended by many authorities devoted to working with the handicapped. Humanitarian and religious groups have recognised the right of the child to be born into a healthy environment.

"Misconceptions about heredity often arise as early as the seventh and eighth grades and may cause anxiety unless replaced by scientific facts about genetics. Family living courses, sex education, and genetics, besides correcting these misconceptions, deal with the responsibility of healthy living and the creation of a healthy environment for the next generation. . . . Genetics gives emphasis to the importance of passing on healthy genes to the next generation and, conversely, of refraining from passing on pathologic genes. . . ."

Mrs. Bass states that an investigation of the literature available for reports of family life courses for the handicapped has revealed only two programmes: one on sex education for the deaf, and one for the retarded.

Referring to the programme for sex education for deaf girls at the New Jersey School for the Deaf (U.S.A.) in 1956, as outlined by J. W. Chaplin, Mrs. Bass states that the principle underlying this programme is that it should stress primarily the concepts of love and respect and the building of a good reputation, and should not deal merely with facts about sex.

The class was grouped according to age. For the younger group, consisting of girls from 10 to 12 years, the emphasis was on "human growth, physical changes, and menstruation. Many pictures and seven film strips on growing things were used. The language was simple and

particularly appropriate for deaf children. Each class followed a similar programme, beginning with a discussion and review of the previous lesson, followed by pictures, charts or stories to illustrate the material."

There were longer sessions for the older group, but the class followed the same basic pattern. Fundamental lessons in the anatomy and physiology of both sexes were given and the outstanding feature of the class was the "freedom and lack of inhibition" with which questions were asked.

With regard to sex education for the retarded, Mrs. Bass outlines the excellent curriculum guide evolved by Dr. Hans Gordon, Director of the Division of Special Education of the Philadelphia Schools. Representing the wisdom gleaned from years of teaching "the fundamental habits and skills of health and safety to mentally retarded pupils", the guide is for students who are approximately 12 to 17 years of age, chronologically, and 6 to 12 years mentally. She points out that "the goals for the courses are that pupils should learn to understand and recognise the physical changes that occur in the body during adolescence; . . . develop habits of self-control that contribute to character, health, and social growth; develop a sense of responsibility to themselves, their friends, home and community; develop correct attitudes towards standards of social conduct; develop an understanding of the reason for and the function of menstruation. . . . ; know the function of the body in human reproduction.

"The material is presented in a manner that will encourage the pupils to participate in the presentation of the subject matter and to give them a concrete experience as they learn. It is conveniently set up in three columns. The first is the content; the second, the suggested activity; and the third, the related experience."

While the investigation revealed no formal programme for the blind, Mrs. Bass states that contacts with schools and associations for the blind showed an awareness for the need of courses in family living and genetics. She refers to a letter from the Overbrook School for the Blind which outlines their policy as regards education for marriage. Marriage between two blind persons is discouraged for two main reasons, viz., because of "the possibility of hereditary blindness in the parent being transferred and, secondly, even where blindness is not inherited, there is much feeling that the seeing child of blind parents lives a rather unnatural life, early learning to be a guide, and in some ways, a servant to his parents." These attitudes are transmitted both in small group discussions and individual conferences.

BOOK REPORTS

Sexual Ethics: A Christian View by Sherwin Bailey. Macmillan, New York, 1963 (159 pages, \$1.45).

No one is better qualified, from the standpoint of liberal Protestant theology, to write on Christian Sex ethics than the author. The treatment is brief but highly concentrated, with an adequate historical orientation. The scope is wide—sex, love, marriage and parenthood, viewed from the point of view of their ethical implications. Bailey's style, as ever, is a model of lucid expression.

A New Sex Ethics and Marriage Structure by Marion Bassett. Philosophical Library, New York, 1961 (332 pages, \$6.00).

A provocative book, and intended to be. In the form of a dialogue, it challenges our traditional sexual codes—not in strident or iconoclastic petulance, but by way of raising seriously and sincerely the difficult and controversial questions we usually prefer to avoid. Written from a woman's viewpoint, it might well have been entitled "A Woman's Right to Sexual Love". The author, a member of the American Association of Marriage Counsellors, Inc., for nearly twenty years, has read widely and thought deeply before putting down her views. The book is almost exasperatingly thought-provoking, and would make an admirable text for a study group seriously willing to face the bewildering contemporary issues in the area of the man-woman relationship.

Fortunate Strangers by Cornelius Beukenkamp. Rinehart, New York, 1958 (269 pages, \$3.50).

The full story of nine disturbed young people who underwent group therapy with the author. Well written, and fascinating to read, it conveys very convincingly the give-and-take interactions of the group members to each other and to the therapist, as each in his own way moves toward better mental health.

Release from Sexual Tensions by Mary Calderone. Random House, New York, 1960 (238 pages, \$4.95).

As Bob Laidlaw says in his Foreword, the message of this book is that *sex is good*. The author is well-known for her dynamic vitality and her campaigning zeal for better human relations. This book is a good deal more than the usual sex manual for the recently married. It deals also with the function of sex in the life of the child and of the

adolescent, with the sex problems of the widowed and divorced, and with the place of sex in the later years. As Medical Director of the Planned Parenthood Federation of America, Mary Calderone had access to a vast amount of clinical material. She writes with simplicity and directness, with human warmth and with optimism. (Note—A British edition has been published by Robert Hale of London.)

The Healing of Marriage by William L. Carrington. Channel Press, New York, 1961 (255 pages, \$3.50).

The author, an Australian psychiatrist, a pioneer of marriage counselling, and a Foreign Affiliate of the American Association of Marriage Counsellors Inc., spells out in this book his own philosophy of marriage counselling. He is writing primarily for ministers, hundreds of whom he has trained in this field, and therefore avoids technicalities as far as possible. The focus is on the clinical operation of marriage counselling, and this book certainly belongs to the small but growing number of authoritative writings in this field. It deals particularly well with the counsellor-client relationship, and with the implications for marriage of personality disorder.

Fundamental Marriage Counselling—A Catholic Viewpoint by John R. Cavanagh. Bruce Publishing Co., Milwaukee, 1961 (652 pages, \$8.00).

Written by a well-known Catholic psychiatrist, this is not in fact a book on counselling technique, but a source book for Catholics who have to deal with marital problems, primarily in the areas of medicine and moral theology. There is very little recognition of the established sociological and psychological findings about marriage. However, the controversial issues of sex education, contraception, abortion, sterilization, interfaith marriage and divorce are fully treated, and few uncertainties about where Catholics stand on these questions will remain in the mind of anyone ready to give this volume a thorough reading.

Parents Without Partners by Jim and Janet Egleson. Dutton, New York, 1961 (249 pages, \$4.50).

One of the significant developments of our time is the spontaneous action taken toward corporate self-help by divorced, widowed and separated parents in the U.S.A. This book, written by the people who started it, tells the whole story of the beginnings of P.W.P. The plight of the no-longer-married is dramatically revealed in a wealth of first-hand information about this long shunned and neglected sector of society.

Meeting the Needs of Today's Family by Wayne Anderson. Publishers Press, Salt Lake City. (129 pages)

The author, an A.A.M.C. member, has been a popular speaker to parent and youth groups in Minnesota, U.S.A. This book contains the substance of some of his talks, and includes material on sex education, dating, mate selection, marriage preparation, marital adjustment, parenthood, and the later years. The material is practical, the approach inspirational, and the book is well stocked with good illustrative anecdotes.

The Road to Reno by Nelson M. Blake. Macmillan, New York, 1962 (269 pages, \$ 5.00)

This is a history of American divorce, written by a Professor of History at Syracuse University. The flippant title is misleading, for this is a serious, scholarly study which fills a gap in the literature. It is lucidly written and packed with interesting information.

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 - (b) the use of scientific contraceptive methods,
 - (c) treatment of childless couples desiring to establish a family,
 - (d) marriage problems.
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VASECTOMY—A STUDY OF EFFECTS AND REACTIONS

SHRI N. K. BHATNAGAR

(Statistician, Directorate-General of Health Services, New Delhi)

An ideal contraceptive which is cheap, acceptable to different classes of people, free from any harmful effects, and which can ensure complete protection against conception is yet to be discovered. In the absence of any such ideal contraceptive, the Government of India has initiated a programme advocating and encouraging sterilization among males (i.e. vasectomy) in judiciously selected cases. Although a gradually increasing number of individuals from different strata of life and from different age groups are coming forward for sterilization, it would be in the fitness of things to fully understand the implications of sterilization before this practice gains wider approbation. With this end in view, a follow-up study of cases referred for vasectomy by the family planning clinics under the Central Government Health Scheme (C. G. H. S.) during the period 1st January, 1956, to 31st October, 1962, was carried out.

Objectives

The objectives of the survey were as follows :

- (i) to study the socio-economic and demographic characteristics of the persons operated upon, and of those who dropped out,
- (ii) to assess the reaction of the people who underwent the operation,
- (iii) to find out the after-effects, if any, of this operation, and
- (iv) to ascertain the reasons in respect of the cases which had dropped out.

Scope and coverage

During the period under study, in all, 1,307 cases were referred to the hospitals for vasectomy by the family planning clinics under the C. G. H. Scheme. The required information was collected during February and March, 1963, by male social workers in prescribed questionnaires by the interview method. Information could, however, be collected only from 612 (46.8%) cases. Most of the cases which could not be contacted had either shifted their residence or their

addresses were incomplete. Besides, some of the cases did not co-operate and refused to furnish the required information. Of 612 cases about whom information is available, only 341 (55.7%) underwent the operation.

Though C. G. H. Family Planning Clinics are open to the general public, the services are utilised mainly by Government servants and their families. Of the 612 cases mentioned above, all were Central Government employees.

Socio-economic and demographic characteristics

It is felt that a study of the socio-economic and demographic characteristics of the persons who underwent the sterilization operation, as also of those who dropped out, would be of some interest and use. The results in respect of some of the important characteristics studied are detailed below.

(i) Income

A table showing comparative distributions of (i) the number of persons who underwent the vasectomy operation, (ii) the number of persons who dropped out, and (iii) the total number of Government servants covered under the C. G. H. Scheme is given below :

TABLE 1
Distribution of persons according to income

Income groups	Percentage of those who underwent the operation	Percentage of those who dropped out	Percentage of the population covered by the C.G.H. Scheme
Upto Rs. 150	.. 19.7	26.5	34.4
Rs. 151-249	.. 26.7	23.3	32.7
Rs. 250-499	.. 39.9	36.8	23.9
Rs. 500-749	.. 6.7	7.4	4.5
Rs. 750-999	.. 2.1	2.8	1.7
Rs. 1,000-1,499	.. 2.3	2.4	2.0
Rs. 1,500-1,999	.. 0.3	—	0.5
Rs. 2,000 and above	.. —	—	0.3
Income not known	.. 2.3	0.8	—

The above table shows that the percentages of persons seeking vasectomy with monthly incomes ranging between Rs. 250 and

Rs. 1,499 are higher in comparison to their actual percentages in the total population of Central Government employees. The inference to be drawn is that vasectomy as a method of family limitation, is more popular among the Central Government servants whose pay ranges between Rs. 250 and Rs. 1,499. The reason for vasectomy being less popular in the pay groups Rs. 151-249 and Rs. 1,500 and above, appears to be that the former group is mostly constituted of Government servants of a younger age and the latter of Government servants of older age. Presumably, the lower percentage of people coming forward for vasectomy from the pay group Rs. 150 or less can be attributed to the fact that this group is mostly composed of 'daftaries' and peons or the like (Class IV Staff) who are not highly educated.

(ii) Education

An idea of the educational standard of the persons operated upon, as also of those who initially agreed to undergo the operation but later dropped out, can be had from the following table :

TABLE 2
Educational Status

Educational status	Percentage of persons who underwent the operation	Percentage of persons who dropped out	Total
Illiterate	.. 35.7	64.3	100.0
Educated upto middle standard	.. 54.9	45.1	100.0
High School	.. 56.8	43.2	100.0
Graduate	.. 67.3	32.7	100.0

It is seen that the higher the educational level, the greater the percentage of persons undergoing the vasectomy operation. This appears to show that educational standard had a considerable effect on the decision of the persons to undergo the sterilization operation.

(iii) Age composition

The age distribution of the patients who underwent the operation as also of those who dropped out is given below :

TABLE 3

Age distribution

Age	Percentage of those who underwent the operation	Percentage of those who dropped out	
25-30 years	.. 59.2	40.8	100.0
30-35 years	.. 64.3	35.7	100.0
35-40 years	.. 64.2	35.8	100.0
40-45 years	.. 48.3	51.7	100.0
45-50 years	.. 32.6	67.4	100.0
Above 50 years	.. 33.3	66.7	100.0

The above table shows that age is not a distinguishable factor for taking the decision to undergo the operation.

It may, however, be mentioned that the average age of the patients at the time of the operation works out to 36.3 years and that of their wives to 30.5 years. It is interesting to know that 58% patients underwent the operation when they were between the ages 30-40 years and their wives between 25-35 years.

(iv) Number of living children

The distribution of persons operated upon as also of those who dropped out according to the number of children alive at the time of reference to the hospital for operation is given below :

TABLE 4

Number of living children

No. of children	Percentage of those who underwent operation	those who dropped out	Total
0	.. —	100.0	100.0
1	.. —	—	—
2	.. 76.9	23.1	100.0
3	.. 59.6	40.4	100.0
4	.. 69.5	30.5	100.0
5	.. 53.7	46.3	100.0
6	.. 57.5	42.5	100.0
7	.. 57.1	42.9	100.0
8 & more	.. 42.3	57.7	100.0

It appears from the table that the number of living children is not alone sufficient for people to take the decision to undergo the sterilization operation. This point is studied further in the following table, taking into account the educational standard of the patients.

TABLE 5

No. of living children in relation to educational status of patients

No. of children	Illiterate		Upto Middle		Matric		Graduate		Not available		Total	
	Under-went	Absented	Under-went	Absented	Under-went	Absented	Under-went	Absented	Under-went	Absented	Under-went	Absented
0	..	—	1	—	1	—	—	—	—	—	—	2
1	..	—	—	—	—	—	—	—	—	—	—	—
2	..	—	—	1	—	5	1	4	2	—	10	3
3	..	—	1	6	3	14	15	14	4	—	34	23
4	..	1	2	8	6	51	20	38	15	—	98	43
5	..	4	5	13	14	31	31	25	13	—	73	63
6	..	5	6	18	12	32	25	15	11	3	73	54
7	..	3	3	8	6	9	8	8	4	—	28	21
8 and more	..	2	8	2	4	9	11	9	6	—	22	31
Not available	..	—	1	—	—	—	4	—	3	—	3	5
Total	15	27	56	46	151	115	113	55	6	2	341	245

It is revealing that 74.0 per cent of those who underwent the operation were educated at least upto Matriculation and had three or more living children. This appears to indicate that education and the number of living children jointly played an important part in the decision of the couples regarding the vasectomy operation.

Motive for sterilization

While 94.0 per cent reported that they underwent this operation because of multiparity and for socio-economic reasons, 6 per cent sought it on medical grounds. All, however, expressed a desire for permanent prevention of further pregnancies.

Sources of information

Of the persons operated upon, 44.3 per cent obtained information about vasectomy from the clinic staff, 22.5 per cent got it from their friends and relatives, and 33.2 per cent from literature, etc.

Effects of the operation

A table showing the effects of the operation on health, sexual desire, frequency of coitus and the sexual act is given below :

TABLE 6

Effects of the operation

	No change	Improved	Deteriorated	Total
General health	246 (76.4%)	32 (9.9%)	44 (13.7%)	322 (100.0)
Sexual desire	229 (69.4%)	62 (18.8%)	39 (11.8%)	330 (100.0)
Frequency of coitus	236 (72.8%)	45 (13.9%)	43 (13.3%)	324 (100.0)
Satisfaction from the sexual act	219 (67.4%)	66 (20.3%)	40 (12.3%)	325 (100.0)

(i) *General health*

While no change in their general health was reported by 76.4 per cent patients, 9.9 per cent indicated a definite improvement in their health. The improvement may be due to happiness and mental relief resulting from freedom from anxiety about accidental pregnancies. 13.7 per cent complained of deterioration in their health and attributed it to vasectomy. But in the absence of any conclusive evidence that this deterioration in health was due to vasectomy or some physiological trouble (the two events being purely coincidental), the reason seems to be psychological. In any case, the psychological impact on the mind of this minority cannot be ignored as it definitely has deeper repercussions in the long run.

(ii) *Sexual desire and frequency of coitus*

In all, 69.4 per cent patients stated that there was no change in their sexual desire whereas 18.8 per cent indicated an increase and 11.8 per cent stated there was a decrease. Manifestation of the desire is generally through the frequency of coitus. Though 18.8 per cent spoke of an increase in sexual desire, the frequency of coitus increased only in 13.9 per cent cases. The reason for an increase either in sexual desire or in frequency of coitus appears to be mainly due to the removal of fear of further pregnancies.

(iii) *Sexual act*

No change in satisfaction in the sexual act was noted by 67.4 per cent, whereas 20.3 per cent reported an increase in satisfaction, and 12.3 per cent a decrease. In view of the importance of marital harmony and its likely impact on other cases, further detailed analysis has been carried out in respect of persons reporting less satisfaction. This analysis has revealed that all the four changes, viz., diminution

in sexual desire, frequency of intercourse, erectile capacity and quick ejaculation, have been reported to have occurred together in 16 (4.6%) cases. Two of them went to the extent of saying that they had been rendered impotent after the operation. The deterioration of the sexual function in these cases does not seem to be temporary and on account of advancing age. Nine cases underwent the operation three years back and 7 cases about two years back. Seven cases were below 40 years of age at the time of survey, 6 between 40-45 years and 3 cases between 45-50 years.

It cannot be said whether the effect on these cases is psychological or real. In any case the individuals appear to have been affected and their feelings can better be visualised than described. We cannot afford to ignore such cases because these individuals have high potential to start a vigorous whispering campaign which may have a deterrent effect on people going in for vasectomy.

(iv) *Change in temperament*

Only 19.9 per cent patients felt a change in their temperament. Of this, 14.9 per cent patients felt that after the operation they had become irritable, while 3.5 per cent and 1.5 per cent stated they felt depressed and elated respectively after the sterilization.

Complications

In all, 74 (21.6%) persons complained of local complications after the operation. The details are given below :

TABLE 7
Complications following operation

Nature of complication	No. of cases	Percentage of the total number of cases who underwent the operation
Pain at the site	21	6.2
Sepsis	16	4.7
Testicular pain	15	4.4
Haematoma	10	2.9
Local swelling	10	2.9
Hard glands between legs and testicles	2	0.5
Total	74	21.6

A question about the fertility performance of the wives after the vasectomy operation was also asked. Out of 341 cases operated upon, the wives of three patients (0.9%) conceived. In all the three cases, conception took place after a period of about 9 months after the operation. Pregnancies of all the three terminated in the births of live babies. The results of the semen examination in these cases, all of whom went for the test only after the conception, have revealed that live spermatozoa, capable of impregnating a woman, were present.

The above study suggests that getting the semen tested in time is not only important for preventing conception and achieving the purpose for which the operation was sought but is also essential for marital harmony. This could best be achieved if social workers follow up the cases and ensure timely observance of the instructions by the patients.

Resumption of duty after the operation

It will be of interest to know when the patients resumed their normal duties after the vasectomy operation. Accordingly the data have been tabulated below:

TABLE 8
Period after which patients resumed duty

Period after which duty was resumed	No. of patients	Percentage
Same day	9	2.6
1-3 days	58	17.1
4-6 days	65	19.1
7-10 days	136	39.9
11-14 days	14	4.1
15-18 days	26	7.6
19-22 days	8	2.3
23 and above	17	5.0
Not available	8	2.3
Total	341	100.0

The average length of time after which a patient resumed his normal duties works out to 9 days. A percentage of 2.6 patients resumed their duties on the very day of the operation, 17.1 per cent between 1-3 days, and 19.1 per cent between 4-6 days. The maximum number of patients, i.e., 39.9 per cent resumed their duties within a period of 7-10 days and only 19.0 per cent patients after a period of 10 days.

For the purpose of this study, a patient who did not develop any local complication has been defined as 'normal', and one who developed it as 'abnormal'. The complications referred to here do not pertain only to the period between the date of the operation and the resumption of duty, but to the period between the operation and the date of the survey. The period of resumption of duty is studied below separately for normal and abnormal cases.

TABLE 9

Period of resumption of duty for normal and abnormal cases

Period after which duty was resumed	Normal cases	Abnormal cases	Total no. of cases
Upto 6 days from the date of operation ..	82	15	97
After more than 6 days from the date of operation	177	59	236
Total ..	259	74	333

In order to enable Government servants to undergo the operation and get some rest, which is considered necessary immediately after the operation, the Government of India have made provision for the grant of special leave for six working days. But it is seen that 236 patients, out of which 59 were abnormal (i.e., involved in local complication), resumed their duties after the sixth day from the day of operation. The delay in resumption of duties by the 59 abnormal cases is presumably due to local complications.

The delay in resumption of duty caused a great hardship in some cases. A perusal of questionnaires has revealed that some patients did not have leave to their credit and as such had to go on leave without pay. In cases where patients had to take earned leave, even the six days special casual leave generally allowed to vasectomy cases, was also refused on the ground that special casual leave cannot be combined with earned leave. All such cases made a pointed reference to their difficulties. Government leave rules seem to require a slight amendment in this connection. As this survey was mainly for Government servants, this hardship was not acutely felt in a large number of cases. But the extent of the hardship and the sufferings undergone by poor classes in private service can easily be judged when they have to be on leave without pay if unfortunately they fall a prey to some post-vasectomy complication.

Resumption of the sexual act after the operation.

It will also be useful to find out how long after the vasectomy operation the patients resumed sexual relationship with their wives. The table given below shows the distribution of patients according to the period after which intercourse was resumed.

TABLE 10
Distribution of patients according to period after which intercourse was resumed

Period after which intercourse was resumed	No. of patients	Percentage
0-10 days	4	1.2
11-20 days	25	7.3
21-30 days	50	14.7
31-40 days	24	7.0
41-50 days	55	16.1
51-60 days	78	22.9
61-75 days	11	3.2
76-90 days	35	10.3
91 and above	45	13.2
Not available	14	4.1
Total ..	341	100.0

The average period after which a patient resumed sexual relationship with his wife works out to 64 days; 8.5 per cent resumed between 0-20 days, 21.7 per cent between 21-40 days, 39.0 per cent between 41-60 days, 13.5 per cent between 61-90 days, and 13.2 per cent after 90 days.

The period after which sexual relationship was resumed was further studied by dividing the cases into normal (without local complication) and abnormal (with local complication) cases. Normal cases resumed intercourse on an average after 63 days and abnormal after 69 days. These two periods have been tested for significance and it has been found that there is no significant difference between normal and abnormal cases. This analysis brings out two important features, viz., (i) the normal cases took extra precaution and resumed intercourse after a sufficient interval, (ii) in respect of abnormal cases, the complications were not, however, such as to prevent them from resuming their sexual relationship.

Follow-up of instructions

With a view to studying the follow-up of instructions given to the patients, the data was analysed and the results are as follows:

TABLE 11
Follow-up of instructions

Nature of instruction	Number of cases		Total	Followed instruction
	Given instruction	Not given instruction		
Abstinence till stitches are removed	174 (51.0%)	167 (49.0%)	341 (100%)	340 (99.7%)
Getting semen test done	256 (75.1%)	85 (24.9%)	341 (100%)	138 (40.5%)
Use of contraceptives till the semen test	79 (23.2%)	262 (76.8%)	341 (100%)	65 (19.1%)
No cycling for about 15 days	244 (71.6%)	97 (28.4%)	341 (100%)	230 (67.4%)
Not to lift any heavy weight for about 3 months	133 (39.0%)	208 (61.0%)	341 (100%)	121 (35.5%)

The above table shows that the instructions were not given properly and also to all the patients at the time of the operation. Even the most important instruction, namely abstinence till the stitches are removed, was not given in all the cases, though it was followed by 99.7 per cent. The majority of the patients followed most of the instructions given to them except that regarding the semen test. The reason for the same seems to be lack of proper arrangements, particularly privacy in the hospitals. Some of the patients actually reported for the semen test but finding the conditions unhealthy, unhygienic and lacking in privacy came back without the test.

Reactions

To elicit the opinion of the persons operated upon, a question was asked as to whether or not they would recommend the operation to others. Those in favour of recommending the operation came to 84.8 per cent and quite a few of them were emphatic about it. As against this, 7.6 per cent did not want to recommend vasectomy to others. Another 7.6 per cent did not express any opinion.

The opinion of the wives of the patients as regards the operation was also sought. Although this question did not elicit any reply in a large number of cases, it can, however, be inferred from the replies available that, in general, the wives of the patients were not against the operation.

Reasons for cases which dropped out

For each case, the written consent of both the husband and wife was taken after explaining the nature and implications of the operation before referring them to the hospital. Yet, out of the 612 cases which had earlier agreed to undergo the operation, as many as 271 (44.3 %) did not go in for it. A study of the causes which led them to drop out will be useful. The detailed analysis is as under :—

TABLE 12
Reasons for cases which dropped out

Nature of reasons	No. of patients	Percentage
Fear of adverse after-effects	50	18.5
Unsatisfactory arrangements in the hospitals, such as difficulties in getting an appointment, a long period of waiting, lack of proper attention, etc.	27	10.0
The operation is against nature and religious beliefs	22	8.1
Using contraceptives successfully	19	7.0
Wife changed her mind	15	5.5
Domestic circumstances	14	5.2
Ill-health of the patient	11	4.0
Too advanced in age for the operation	11	4.0
Illness in the family	10	3.7
Parents/relatives against the operation	10	3.7
Out of station on the day of the operation	9	3.3
General debility	9	3.3
The patients had recently undergone some other operation like hernia, appendicitis, hydrocele etc.	7	2.5
Children are younger in age	4	1.5
In the meantime the wife was operated upon	3	1.1
Death/deaths of children	2	0.7
The method is irreversible	2	0.7
The patients thought that they would get their wives operated upon at the time of the next delivery	2	0.7
The patients cannot avoid cycling because of the requirements of their jobs	2	0.7
In the meantime, the wife had reached menopause	1	0.4
The patients had only one male child among seven daughters	1	0.4
Reasons not given	40	14.9
Total	271	100.0

It appears from the above analysis that most of the patients changed their minds probably because the time-lag between the date when they were referred to the hospital and date for the operation was too long, varying from three weeks to three months. Unsatisfactory arrangements in the hospitals also seem to be partly responsible for this. Some of the patients actually took the appointment for the operation but, on seeing the conditions prevailing in the hospitals, never reported for the same. Some of the cases who reported for the operation on the appointed day were not attended to, and so they dropped out.

General observations

Besides the specific points made in the preceding sections, some observations of a general nature which it is hoped will go a long way in encouraging the operation among the masses, are given below :

(i) In most of the hospitals in Delhi and New Delhi, the sterilization operations are performed as a routine and combined with other operations in the surgical departments. It would be better if separate sterilization units are established in the hospitals. The patients will have the psychological satisfaction that they have been specially attended to.

(ii) The follow-up work of the referred cases should be taken up vigorously so that doubts and misunderstandings can be removed and the necessary assistance rendered as far as possible. This will also ensure timely observance of the instructions given by the surgeons.

(iii) In the selection of cases for vasectomy it should be ensured that the patients are emotionally mature and have a clear understanding of the *pros* and *cons* of their decision.

(iv) Some literature on vasectomy may be made available to the patients when they are referred for the operation in order to dispel all fears and misconceptions about after-effects, etc. The literature should also contain various instructions regarding the precautions to be observed after the operation. It should be available in English as well as in regional languages.

Last, but not least, it may be mentioned that the purpose of this paper is not to decry vasectomy but only to draw attention towards the problems involved in it to ensure the happiness and welfare of the individual and of the family, which, after all, is the basic philosophy of family planning.

POPULATION PROBLEMS IN LATIN AMERICA: A HEMISPHERIC PERSPECTIVE*

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Demographically, the continents of the Western hemisphere are distinct from those of the Eastern in their extraordinary and sustained rates of population growth. North America maintained an average annual rate of growth of 3 per cent per year for over a century between 1750 and 1850. Comparable rates in Latin American nations began a hundred years later, and by the end of this century the overall rate of growth for Latin American countries should rival that of North America of centuries ago. Thus far, no other continent and probably no nation outside the hemisphere has demonstrated such rates of growth for such extended periods. Indeed, the industrialized countries of Europe probably never experienced sustained population growth in excess of one and a half per cent per year.

The Western hemisphere is also notable for its spectacular birth rates. Quebec, in Canada, in the mid-19th century, had a birth rate in excess of 50 and women of completed fertility had 8 to 10 children on the average. The U.S.A., in the early 19th century, had a birth rate of about 55 and the average woman had seven or eight children. While no Latin American country shows rates in excess of these, several Central American countries today have rates approximating them. Birth rates of this magnitude exceed most of those found in Asiatic or African nations, and are well above rates for England and Western European nations prior to their industrialization.

Finally, in contrast with many European and Asiatic countries, the average North or South American country is not densely populated, and the average absolute size of population of most of the countries is relatively small.

In brief, the Latin American overall demographic position, while unusual in comparison with Asia, Africa and Europe, has much in common with North America of an earlier period. The rapid rates

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of population growth, the high rates of birth, and the generally low population density all have their counterparts in North America of a century or more ago. However, such growth similarities should not lead us to overlook a number of crucial differences.

Density and population size

Low population density figures are often cited as evidence that Latin America has no population problems. Further, the existence of large uninhabited land masses is used as evidence of the need for *larger* population. But the crucial scarcities are less in terms of space or material resources than in terms of capital, skills and social organization. I would venture to say that North America of two centuries ago was in many ways in a more advantageous position with respect to these resources than large parts of Latin America. The relative flexibility of the class structure, the more even distribution of wealth, the favourable market situation, all created in North America less "social density" than in Latin America.

Those who point to wide open spaces as evidence for the need for more population, might ask themselves the question: Why are there so few people there now? It is hardly the case that Latin Americans do not like to move, or are irrational about economically advantageous settlement. Since World War II migration from rural areas to the crowded cities has been phenomenal. The flight is *away* from the wide open spaces. And with good reason. Migration to the city represents an easier and more pleasant readjustment than migration to a new rural area, and is a better risk for social and economic improvement. To get people to move to rural areas requires patience, skill and capital.

However, the only point in settling new areas is to *increase* agricultural productivity, not to expand the numbers in unproductive agriculture. This can be done by reducing the amount of marginal land under cultivation at the same time as more productive lands are settled. But *more* population is not needed for this purpose. There are already too many people on unproductive lands, and agricultural underemployment is a serious problem in many countries. In this sense of economic productivity, agricultural land is already over-populated. Large numbers could be removed from the land without reducing productivity. The situation can be remedied either by adding capital, skills and improved organization to existing lands, or by removing excess rural population to more productive lands. In neither case are more people needed, but the fact is that

are more rural people all the time. Despite massive migration to urban areas, the numbers living in rural areas increase with each census. While the proportion in agriculture is decreasing in a number of countries, the actual *numbers* are not. If population growth could be slowed at the same time as more productive areas are settled, economic development would clearly be accelerated.

Quite apart from the question of density is the question of absolute number. Small countries sometimes feel the need to become great—and a large population is seen as an important aspect of greatness. It is true that population size is an ingredient of national power: large armies and large-scale industries are possible only in countries with large populations. But a large population does not guarantee these—India has neither a powerful army nor powerful industries, although it has the necessary population base for both. Indeed, it is probably fair to say that India's large population, but especially its rate of population growth, is a deterrent to its power.

Latin American countries can improve their power position in the world by regional integration plans far quicker and more economically than by expanding their own population. A common market, a regional university system, or a continental defence system will improve both national power and individual well-being far more than rapid population increase.

Rates of population growth

It is, in fact, the rate of growth rather than population size or density which is the key to the "population problem." A nation growing at 2.5 per cent per year must invest 5 to 12 per cent of the national income per year to maintain a constant average amount of equipment per worker. Thus a high proportion of foreign loans or domestic savings must be expended just to maintain the economic status quo. Improvement becomes a matter very difficult for capital scarce nations.

It is sometimes said that more people represent more consumers and therefore are a stimulus to industry. This may be true in prosperous economies but not where average income is so low that it barely covers subsistence. Five million more Peruvians in the sierra tomorrow could not add materially to the effective demand for consumer goods in Peru, and would immensely complicate Peru's economic development.

Although North America's peak rates of population increase have exceeded those of South America, they occurred at a point when

the size of the population was relatively small. When North American population tripled between 1850 and 1900, it was a tripling of a mere 26 million, but when Latin American population triples between 1950 and 2000 we are referring to a population of about 200 million increasing to about 600 million. In other words, a 3 per cent growth rate today has far more serious implications for population growth than it did a century ago.

A second difference in growth rates is that while a major part of North America's growth was achieved by immigration, virtually all of Latin America's is occurring by means of natural increase. Thus, while the population of the U.S.A. increased by 53 million in the latter half of the 19th century, at least 20 of the 53 million added persons were immigrants from Europe. By way of contrast, when by year 2000, Latin America has added 400 million to its 1950 population, it will virtually all be the result of the excess of birth over death.

The immigrants were in the young, economically-productive age groups. Thus, the United States added millions of productive workers to its labour force without the huge cost of educating, feeding and caring for them during their childhood and youth. Latin America, on the other hand, is grappling with huge dependent populations. The proportion of the population under 15 years of age is close to 40 per cent in most Latin countries, and the relatively fewer aged do not compensate for the large numbers of younger dependents. For example, North America has about 65 persons under 15 and over 59 for every 100 persons aged 15-59, whereas in Central America and tropical South America the corresponding figure is 85.

Birth rates

Migration in part also accounts for North America's early high birth rates, since the immigrants tended to be both young and from European countries and economic classes of traditionally high fertility. In Latin America, the high birth rates are indigenous; indeed, the lowest birth rates are found precisely in the countries of heaviest immigration—Argentina, Uruguay and Chile.

A more important difference refers to the timing of declines in the birth rate, since future population growth in Latin America will be much more affected by variation in fertility than in mortality. North American birth rates began declining at least from the beginning of the 19th century and continued to decline till 1940. In assessing future trends in Latin American fertility, therefore, it is

important to keep in mind that it required about a century and a half for the United States to achieve birth rates comparable to those of Europe. (Most European countries, in turn, took at least this amount of time to bring their birth rates to modern levels.) It is usually argued that increasing urbanization, education and income level will bring down birth rates soon in Latin America. Is there any reason to believe they will come down faster than they did in the U.S.?

First of all, we must not overlook the possibility that Latin American birth rates will *rise* before they begin to fall. This occurred in England and most Western European nations. In Latin America, there are several factors currently inhibiting fertility which might be expected to be reduced by economic modernization.

- (a) Malnutrition or generally debilitating diseases which may impair fecundity or reduce the incidence of sexual relations will be reduced.
- (b) Specific diseases such as gonorrhoea which impair fecundity will be reduced.
- (c) Relatively high ages at marriage in most Latin countries might be reduced by greater economic prosperity and security. Further, with increasing education and economic well-being, we may anticipate a reduction in consensual or "free" unions, which because of their unstable nature relative to marriage, are in some countries less fertile than legal unions.
- (d) Breast feeding, which for some following a birth is as effective as a low grade contraceptive, may decline in incidence or in duration with economic development.

Whether or not such changes would lead to an increase in the birth rate, depends upon the degree of counteracting practice such as abortion and contraception. At the very least, they can be expected to slow down the speed of a decline in the birth rate.

On the other hand, Argentina, Chile and Uruguay have shown notable declines in birth rates in the past half century and may suggest an acceleration of the long process of fertility decline. A difficult question, however, is the extent to which such changes are due to changes in education and economic development, or to the European culture which characterizes these particular Latin American nations. Let us then look at the relation between fertility and economic and social development.

No one knows precisely how or why the birth rates of the U.S. and Western Europe were reduced, but a number of reasonable and partially confirmed hypotheses may be advanced :

- (1) Reductions were accomplished largely by deliberate efforts to prevent conception or birth, rather than by changes in marriage pattern or declines in fecundity.
- (2) Such efforts were brought about less by innovation in contraceptive technology than by broad social and economic changes which created strong penalties for high fertility.
- (3) Fertility control spread from urban to rural areas, and from upper social classes to lower.

Since there is no reason to believe that changes in either age at marriage or in fecundity in Latin America will affect fertility negatively, let us proceed to the second point.

There is a basic difference between the control of death and the control of birth which must be kept in mind. Declines in the death rates of Europe and the U.S. took a great deal of time because they were probably less the result of medical technology than of gradual improvements in level of living, transportation, nutrition, etc. These in turn were the result of broad social and economic changes. In short, the declines both in fertility and mortality stemmed from the general complex now referred to as "development" or "modernization".

In Latin America, on the other hand, declines in the death rate have been more rapid than was the case in North America and Europe, but not because economic development was more rapid. Indeed, the improvements in mortality occurred virtually independently of economic development because medical technology today, especially public health techniques, is so developed that mortality can be reduced without improving levels of living and education.

Can the same be said for control of fertility ? There is no doubt that technological advances in contraception, making birth control easier, cheaper and more effective than in earlier periods, represent a potential factor in speeding the decline of fertility ; but unlike death control, birth control is more likely to require social organizational changes which place penalties on having many children.

Among the changes believed to be associated with the intensification of such penalties are urbanization, industrialization, and education. Preliminary evidence indicates that a fair amount of education,

as much as 5 or 6 years, is required before a material impact on fertility occurs. For many countries it will be a long time before the general level of education reaches this stage. Urbanization in Latin America seems to be a different kind from that experienced by other countries where it was part of the industrialization process, possibly its consequence. Industrial growth has not kept pace with urbanization, and gains in non-agricultural activities are largely the result of increases in service occupations. Many migrants live in urban slums which will allow them to maintain much of their rural way of life. Whether urbanization of this kind will have a depressing effect on fertility is not known. Moreover, the gap between rural and urban areas in Latin America is far greater than has been the case in North America, and social class lines are more clearly maintained. Therefore, it may take longer for patterns of fertility control to permeate rural and lower class groups. In short, there is some reason to doubt that fertility declines will be accelerated in Latin America without specific policies directed toward this goal.

Conclusion

Because this session has been devoted to the demography of the hemisphere, I have concentrated on demographic problems and demographic solutions. I have not been concerned with the social, economic or medical aspects of rapid population growth on the individuals or the family, topics which will be discussed at length throughout the conference.

There is nothing unique or nothing intrinsically "wrong" with any single aspect of Latin America's demographic position. What is problematic and unusual is the combination of demographic facts: high fertility in the face of low mortality; rapid population increase and slow economic growth; urbanization without industrialization; low population density with agricultural overpopulation, etc. It is the disequilibrium in these various aspects which causes difficulty and which begs for solution. It becomes more and more apparent that countries cannot avoid dealing in one way or another with population growth. In sponsoring this session it is the hope of the Population Council that more countries of Latin America will seriously investigate the problem and explore a range of possible solutions.

**A COMPARATIVE STUDY OF THE SOCIO-ECONOMIC
CHARACTERISTICS OF NUCLEAR AND
JOINT HOUSEHOLDS**

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Introduction

The family is the most universal and permanent institution of mankind. The joint family system has often been presented as a major form of family structure in India. Merchant described the joint family in India as a vigorous institution in the 'thirties. The present change from the joint family system to the nuclear family system due to contact with Western ideals and patterns, increasing migration from the ancestral home to industrial centres, and change in law specially pertaining to the status of women and property inheritance, has been debated by several writers. Kapadia (1955) and Desai (1956) emphasise that the joint family system is not disintegrating but only developing new patterns with the same degree of jointness. Kaldhate (1961) emphasises that the joint family system is disintegrating and is less prevalent in urban areas. Diver (1961) concludes on the basis of his study in the Nagpur district, that the joint family occurs rather infrequently, especially in the cities and towns, and is less prevalent among younger couples than older ones. No comparative quantitative data are, however, available on the social and economic characteristics of people living in nuclear and joint households. Such a study, therefore, assumes significance and is the purpose of this paper.

Method and technique of data collection

The data were collected from the five Panchayat Samiti areas, namely Balotra, Baitu, Sindri, Guda and Shiwana of the district of Barmer in the arid zone of Western Rajasthan. For the purpose of data collection, a two-stage sampling procedure was followed. At

first, a sample of one in fifteen villages was selected by the method of systematic sampling. In each village, all the households were enumerated. In the present study, analysis has been made of 796 households out of which 412 (51.76 per cent) were nuclear and 384 (48.24 per cent) were joint. A twenty per cent sample was drawn by the method of simple random sampling and schedules were filled from the heads of sample households. Information was also collected through interviews from a cross-section of the village population.

FINDINGS

Demographic features

The population characteristics of the nuclear and joint households were studied with respect to sex, age and marital status. The sex ratio in the nuclear as well as in the joint households reveal that the males outnumber the females. The proportion of males to females does not vary for nuclear and joint households ($\chi^2 = 0.1740$).

TABLE 1
Sex ratio in the nuclear and joint households

Type of household	Male population		Female population		No. of females per 1,000 males
	No.	%	No.	%	
Nuclear	1109	53.6	960	46.4	866
Joint	1542	54.2	1303	45.8	845

The age composition of population reveals that the percentage of population below 15 years of age is much more in nuclear households as compared to the percentage of population in this age group among joint households. (See Table 2)

TABLE 2
Age composition and type of household

Type of household	0-14		15-34		35-54		55 and above		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Nuclear	1128	(54.5)	544	(26.3)	356	(17.2)	41	(2.0)	2069	(100.0)
Joint	1093	(38.4)	1147	(40.3)	383	(13.5)	222	(7.8)	2845	(100.0)

The percentage of population in the working age group comes to 43.5 and 53.8 in the nuclear and joint households respectively. The age distribution of population is highly associated with the type of household. The ratio of individuals in any two age groups vary significantly from nuclear to joint households except for two age groups viz. 0-14 and 35-54.

TABLE 3
Chi square values for different age groups

Over all $\chi^2_3 = 224.13^{**}$			
χ^2_1 for 0-14 and 15-34	= 135.92**	χ^2_1 for 15-34 and 35-54	= 56.48**
χ^2_1 for 0-14 and 35-54	= 1.52	χ^2_1 for 15-34 and 55 and above	= 29.78**
χ^2_1 for 0-14 and 55 and above	= 117.02**	χ^2_1 for 35-54 and 55 and above	= 86.08**

The age distribution of unmarried males and females shows the practice of early marriage and its universal character both in nuclear and joint households. The percentage distribution of unmarried males in different age groups reveals that males among nuclear households get married at younger ages as compared to those among the joint households. Chi square test shows significant association of age of unmarried males for nuclear and joint households. ($\chi^2_1 = 10.7254$). The association between the type of household and the age of unmarried females is not significant ($\chi^2_1 = 3.1714$).

The number of women in the reproductive period (15-44 years) and their marital status is indicative of the rapid growth rate of population among the nuclear as well as joint households. Statistical analysis reveals that the type of household and the number of women in the reproductive age group are not associated ($\chi^2_1 = 0.9789$).

Size of household

The distribution of the households by size show that only 1.7 per cent of the nuclear households had 10 or more members as compared to 23.4 per cent joint households having 10 or more members. The average size of household comes to 5.02 and 7.41 among nuclear and joint households, respectively.

TABLE 4
Type and size of household

Type of household	SIZE OF HOUSEHOLD									
	1 - 3		4 - 6		7 - 9		10 and above		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Nuclear	105	25.5	216	52.4	84	20.4	7	1.7	412	(100.0)
Joint	25	6.5	148	38.6	121	31.5	90	23.4	384	(100.0)

TABLE 5
Analysis of variance

Variation	D. F.	Sum of squares	Mean sum of squares	F test
Between Groups	1	1109.2	1109.2	
Within Groups	794	5029.6	6.3	**
				(Significant)
Total	795	6047.4	1114.0	

The analysis of variance indicated that there are significant differences between the type of household and the number of members in the household (F. value = 175.2).

TABLE 6
Age of the head and type of household

Type of household	AGE OF HEAD											
	0 - 24		25 - 34		35 - 44		45 - 54		55 and above		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Nuclear	29	7.0	126	30.6	135	32.8	89	21.6	33	8.0	412	100.0
Joint	31	8.1	130	33.9	59	15.4	87	22.7	76	19.8	383	100.0

In the present study, the age of the head of household varies with the type of household. The average age of the head comes to 39.1 years and 41.8 years among nuclear and joint households respectively. Chi square test shows that the proportion of heads of households in the nuclear and joint households vary significantly with respect to the age of the head ($\chi^2_4 = 12.7010$). An analysis of the data further reveals that there is a significant difference in the average age of the head in the two types of households.

Caste composition

The area surveyed has a heterogeneous caste composition and is represented by 36 different castes. For the purpose of working out the association of the distribution of various castes in the two types of households, castes were grouped into five different categories on the basis of their traditional occupation. The data show that the type of household has no association with the distribution of different castes (3.831).

TABLE 7
Caste composition and type of household

Type of caste	TYPE OF HOUSEHOLD			
	No.	Nuclear %	No	Joint %
Agricultural castes	206	50.0	206	50.0
Castes raising sheep and goats	18	40.0	27	60.0
Occupational castes serving the needs of agriculturists	81	54.4	68	45.6
Castes serving socio-religious needs	12	48.0	13	52.0
Castes serving other needs of the community	84	58.7	59	41.3
	401	51.8	373	48.2

Literacy

The standard of literacy in the area is very low. Literacy among the females is non-existent. The percentage of literacy is 4.8 and 6.2 among nuclear and joint households respectively. Chi square test shows that the extent of literacy and type of household are not related and are independent of each other ($\chi^2_1 = 3.533$).

TABLE 8
Type of household and educational standard

Educational standard	TYPE OF HOUSEHOLD			
	No	Nuclear %	No	Joint %
Illiterates ..	1969	95.2	2672	93.8
Can read only ..	4	1.5	7	0.3
Can read and write	32	0.2	64	2.2
Primary ..	58	2.8	96	3.4
Middle ..	6	0.3	5	0.2
High School ..	Nil	0.0	1	0.1
Total ..	2069	100.0	2845	100.0

ECONOMIC ASPECTS

Earners and dependents

The data in Table 9 which gives the distribution of earners per household in the two types, shows that 60.9 per cent of the nuclear households had less than 3 earners and none of the households had 9 or more earners as compared to 14.8 per cent joint households having less than 3 earners and 4.2 per cent having 9 or more earners.

TABLE 9

Type of household and number of earners per household

Type of household	Nil		1 - 2		3 - 4		5 - 6		7 - 8		9 or more		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Nuclear	1	(0.2)	250	(60.7)	125	(30.3)	31	(7.5)	5	(1.2)	Nil	Nil	412	(100.0)
Joint	-	-	57	(14.8)	153	(39.8)	104	(27.1)	54	(14.1)	16	(4.2)	384	(100.0)

The total working population comes to 52.3 per cent and 61.6 per cent in nuclear and joint households respectively. This difference is statistically significant. The comparatively high percentage of dependency may be attributed to the larger number of children present in the nuclear households. The average number of earners in a nuclear and joint household comes to 2.63 and 4.57 respectively.

The analysis of variance indicates that there is a significant difference between the number of earners per household in the two types of households. Women also share the burden of earning a livelihood except for the females of a few upper castes. In the nuclear and joint households respectively, 40.9 per cent and 41.2 per cent of the earners are females. The percentage of female earners to male earners does not vary significantly with the type of household ($\chi^2_1 = 0.0271$).

TABLE 10

Analysis of variance

Variation	D. F.	Sum of squares	Mean sum of squares	F test
Between Groups	.. 1	747.1	747.1	Significant**
Within Groups	.. 794	2416.6	3.04	
Total	.. 795	3163.7	750.14	

Main occupation of earners

The chief sources of livelihood in the region are cultivation, animal husbandry, traditional caste occupation etc. The data presented in Table 11 show that cultivation is followed by more than nine-tenths of the earners among each type of household. Since a larger number of households of the sheep and goat-raising caste viz. Raikas, are joint households, animal husbandry is followed by a greater number of earners among joint households.

TABLE 11
Type of household and main occupation of earners

Main occupation	TYPE OF HOUSEHOLD				
		Nuclear		Joint	
	No.	%	No.	%	
Cultivation ..	1015	(93.7)	1658	(94.5)	
Animal husbandry ..	19	(1.7)	59	(3.4)	
Caste occupation ..	20	(1.9)	24	(1.4)	
Other occupations	29	(2.7)	13	(0.7)	
Total ..	1083	(100.0)	1754	(100.0)	

The members of the castes serving other needs of the community have adopted in a comparatively greater number, the main occupation of agricultural and casual labour etc. Since there are a greater number of nuclear households among these castes, 2.7 per cent earners follow such occupations as compared to only 0.7 per cent earners among joint households. Chi square test reveals that there is a significant association between the type of household and the main occupation of the earners ($\chi^2_3 = 24.4285$).

Among nuclear households 35.6 per cent earners follow one subsidiary occupation and 1.2 per cent earners follow two subsidiary occupations as compared to 35.9 per cent earners following one subsidiary occupation and 1.5 per cent earners following two subsidiary occupations among joint households.

Land-holding

Table 12 represents the type of household and distribution of agricultural holdings by size. The percentage of landless households is 4.4. The difference in the mean size of agricultural holdings among the two types of households is statistically significant. The per capita land-holding comes to 8.1 acres and 7.6 acres, respectively, among nuclear and joint households. The land-holding per earner with agriculture as the main or subsidiary occupation comes to 16.5 and 12.7 acres, respectively.

TABLE 12

Type of household and size of agricultural holding per household

Size of holding (acres)	TYPE OF HOUSEHOLD			
	Nuclear		Joint	
	No.	%	No.	%
No holding	18	4.4	10	2.6
< 16	86	20.9	43	11.2
16 — 32	94	22.8	66	17.2
32 — 48	83	20.1	71	18.5
48 and above	131	31.8	193	50.4
Average	40.6		56.1	

Chi square analysis of the distribution of size of land-holding with the type of household reveals that the proportion of different size of land-holding varies in the two types of households ($\chi^2_4 = 32.2826$).

Animal husbandry

Next to land, livestock plays an important role in the economy of the region. Table 13 gives the percentage of households owning different types of livestock, the average number of livestock owned, and the number of each type of livestock owned per 100 persons in the nuclear and joint households.

TABLE 13

Type of household and ownership of different types of livestock

Type of livestock	Household owning livestock				Average number of livestock owned per household				No. of livestock owned per 100 persons in nuclear and joint households	
	Nuclear		Joint		Nuclear	Joint	Nuclear	Joint	Nuclear	Joint
	No.	%	No.	%						
Bullocks	228	55.3	259	67.4	1.203	1.755	24.0	23.7		
Cows	309	75.0	331	86.2	2.286	3.830	45.5	51.8		
Calves	204	49.5	243	63.3	1.004	1.658	20.0	22.4		
Buffaloes	59	14.3	76	20.0	0.184	0.330	3.7	4.5		
Buffaloes (young)	20	4.8	30	7.8	0.063	0.111	1.2	1.5		
Sheep	108	26.2	140	36.5	3.012	8.180	60.2	110.4		
Goats	205	49.7	216	56.2	5.774	11.338	115.0	153.0		
Camel	144	34.9	186	48.4	0.490	0.778	9.0	10.5		

The percentage of household owning each category of livestock and the average number of livestock owned per household is greater in the case of joint households. The per capita ownership of different types of livestock, except for sheep and goats, is almost equal among the two types of households. Sheep and goat-raising is more common and comparatively larger flocks are maintained among joint households. The sale of livestock and livestock produce is therefore higher among joint households. The average sale value of livestock and livestock produce comes, respectively, to Rs. 92.54 and Rs. 58.62 among joint households and Rs. 46.05 and Rs. 22.54 among nuclear households. There is a significant difference in the percentage of households selling livestock and livestock produce and also in the average amount of sale per nuclear and joint household.

Other sources of livelihood

The chief sources of livelihood other than cultivation and animal husbandry are agricultural and other forms of casual labour and traditional caste occupations. 42.8 per cent nuclear households and 39.9 per cent joint households had earnings last year from other sources.

TABLE 14

Type of household and income derived through other sources of livelihood

Income from other sources of livelihood		TYPE OF HOUSEHOLD			
		Nuclear		Joint	
		No.	%	No.	%
No earnings	..	233	57.2	229	60.1
< 200	.	114	28.0	96	25.2
200- 400	..	38	9.3	27	7.1
400- 600	..	13	3.2	15	3.9
600- 800	..	5	1.2	6	1.6
800-1000	..	1	0.2	2	0.5
1000 and above	..	3	0.7	6	1.6
Total	..	407	100.0	381	100.0

Table 14 gives the type of household and income derived from other sources. The distribution of earnings per household indicates that the joint households had comparatively more earnings, the percentage of households earning more than Rs. 400/- during the year comes to 5.3 in nuclear households as compared to 7.6 per cent in joint households. The average earnings per household

Rs. 91.40 and Rs. 147.21 in nuclear and joint households respectively. The per capita earnings from other sources of livelihood were Rs. 18.24 and 19.86, in nuclear and joint households respectively, last year. Thus the per capita earnings from other sources of livelihood are almost equal. The average income per earner during the year was Rs. 34.42 and Rs. 31.98 respectively, among nuclear and joint households.

Indebtedness

Indebtedness is fairly widespread among both types of households.

TABLE 15

Type of household and extent of indebtedness

Extent of indebtedness	TYPE OF HOUSEHOLD			
	Nuclear		Joint	
	No.	%	No.	%
Nil	.. 158	62.9	188	68.9
< 300	.. 35	13.9	18	6.6
300- 600	.. 35	13.9	33	12.1
600- 900	.. 12	4.8	17	6.2
900-1200	.. 3	1.2	6	2.2
1200-1500	.. 2	0.8	3	1.1
1500 and above	.. 6	2.4	8	2.9
Total	.. 251	100.0	273	100.0

Table 15 gives the extent of indebtedness in the two types of households. Of the nuclear households, 37.1 per cent are indebted as compared to 31.1 per cent among joint households. The ratio of households indebted, to households not indebted, in the two types of households does not vary significantly. The average amount of indebtedness per household comes to Rs. 199.30 and Rs. 258.24 among nuclear and joint households respectively. The per capita indebtedness among nuclear and joint households comes to Rs. 2.42 and Rs. 2.48 which is almost equal and which indicates little differences in the standard of living among the two types of households.

Form of settlement

The major section of the population in the region surveyed, lives in *dhanis* (dispersed dwellings) since it provides better utilization of the meagre resources available in the arid zone.

TABLE 16
Type of household and form of settlement

Type of household	Form of settlement			
	Nuclear		Joint	
	No.	%	No.	%
Compact settlement	.. 189	46.0	153	40.0
Dhanis	.. 222	54.0	230	60.0
Total	.. 411	100.0	383	100.0

Table 16 gives the percentage distribution of households according to the form of settlement in the two types of households. The data show that the ratio of households living in compact settlements, to the households living in *dhanis* does not vary significantly in the two types of households ($\chi^2_1 = 3.000$). This study thus supports the findings of an earlier investigation (Bose et al, 1963).

Conclusion

1. Joint households form 48.2 per cent of the households. The sex composition of the population does not vary significantly with the type of household. The age distribution of the population is closely associated with the type of household.

2. The difference in the average size of a nuclear household which is 5.02 and the average size of a joint household which is 7.41, is statistically significant. The type of household and caste are independent of each other. There is a low level of literacy and the extent of literacy is not related to the type of household.

3. The average number of earners per nuclear and joint household is 2.63 and 4.57 respectively. The difference between the means is significant. There is a significant association between the type of household and the main and subsidiary occupations followed by the earners. The difference in the average size of land-holding which is 40.6 and 56.1 acres respectively among the nuclear and joint households is statistically significant. The per capita land-holding comes to 8.1 acres and 7.6 acres respectively among nuclear and joint households. Sheep and goat-raising is more prevalent among joint households.

4. The average earnings from other sources of livelihood during the preceding year were Rs. 91.40 and Rs. 147.21 in nuclear and joint

households respectively. The per capita earnings were Rs. 18.24 and 19.86 respectively.

5. The ratio of the households indebted to those not indebted in the two types of households does not vary significantly. The average indebtedness is Rs. 199.30 and Rs. 258.24 respectively in a nuclear and joint household. The per capita indebtedness is, however, almost equal in the two types of households.

6. The ratio of households living in compact and scattered settlements do not vary significantly in the two types of households.

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THE DEVELOPMENT OF FERTILITY RESEARCH IN INDIA

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Introduction

With the attainment of political independence, the Government of India has, in all earnestness, set about the task of planning for the economic and social development of the country. However, it has been realized that the desirable and much needed improvement in the levels of living of the people cannot be speeded up in the face of a rapidly growing population. The Planning Commission observes that "the object of stabilizing the population has certainly to be regarded as an essential element in the strategy of development" (*Third Five Year Plan: A Draft Outline*—New Delhi, Planning Commission, Government of India, 1950).

The increasing realization of the adverse implications of a rapidly growing population in a developing economy has stimulated interest in demographic studies and this is evident from the spurt in research activities, particularly in the field of fertility in recent years.

The significance of fertility research in the developing countries where the rate of population growth is incompatible with the rate of economic growth cannot be minimized. In some developing countries like Ceylon, there has already been a spectacular decline in the death rate with practically no change in the basic economic features. This was obviously due to the introduction of improved medical and public health measures like antibiotics, insecticides, etc. This is probably a 'perverse' development as it might even prove to be a temporary phenomenon unless counter-acted by adequate improvement in the economic situation. (It might, however, be observed that the scope of a direct comparison between the crude death rates of the modernizing countries on the one hand, and industrialized countries on the other, will be somewhat restricted if there exists disparity in the age structure of the populations).

In some of the neighbouring countries also, the recent trend of modern disease control methods has produced a rapid decline in the

death rate with the birth rate having shown little or no tendency to adjust to the declining mortality. Consequently, the rate of population growth has been increasing and this process is expected to continue for some time. The aim of the successive five-year plans initiated by the Government of India is to improve the national welfare but the generated gains largely go to meet the needs of the growing population. The situation, thus, calls for determined action to achieve the desired equilibrium between economic development and population growth. This might be realized either by increasing the tempo of economic development or by controlling fertility. It is the latter consideration that has chiefly acted as a stimulus to fertility studies in this country in recent times. But which one—economic development or fertility control—should get precedence over the other may be mooted. Some believe that fertility regulation speeds up economic progress while others subscribe to the view that economic development helps in creating a suitable climate for fertility reduction. A third school, however, seems to favour a middle course. Their strategy is to fight the problems of poverty and growing numbers at the same time as they fear that any attempt to restrict the growth of population alone, without parallel attempts to improve the level of well-being, would lead to results that might not be found self-sustaining in the long run. Especially in the conditions prevailing in India, it might even be desirable to achieve a certain minimum level of economic and social development before the population could be motivated to take effective steps to regulate fertility. Experience all over the world has also shown that the 'take-off' point for family planning and limitation requires a critical level of education and prosperity which has yet to be realized in our country.

The beginnings of fertility research in advanced countries

Interest in fertility studies in some of the Western countries had developed more than a century ago. It is, however, noteworthy that the stimulus for fertility research was afforded by diverse situations in the countries now termed as 'developed' and those in the process of development. This interest in fertility studies among the Western nations including the United States of America was incidental to other considerations and did not as a matter of fact arise out of any serious demographic situation. Prior to this, there was no obvious reason for any widespread concern about variations and trends in fertility from a purely economic, social and political point of view, and fertility in the European countries was generally not so high

as in Asia. Advances in production compared favourably with the growth of population. Further, the possibilities of emigrating to the New World were considered immense. However, with the passage of time the pattern of fertility gradually changed and by the end of the nineteenth century, fertility began to decline and class differentials in fertility were observed in some of the large European cities. This turn in the demographic situation generated a certain amount of interest in fertility studies, particularly in the countries of Europe.

In America, fertility was quite high during the early part of the nineteenth century. After this, there was a progressive decline in fertility but this did not draw sufficient attention because of the initial high level of fertility, a parallel decline in mortality and rising immigration. However, the persistence of these trends gave rise to a contrasting fertility picture among the native and immigrant population. The concern caused by the situation stimulated considerable interest in studies relating to fertility. With the gradual development of tools and techniques of research, this has now become a major field of population research in the United States of America.

In Great Britain, interest began to shift from the study of mortality to the study of fertility in the twentieth century. The main reasons for this shift in emphasis were the declining birth rate and the significant social class differentials in fertility which eugenicists thought might lead to biological deterioration.

In France, the initial development of fertility research owed much to political considerations. Fertility had started declining as early as the end of the eighteenth century and continued well into the nineteenth century. Consequently, there was a widening of the differences in the rate of growth of population between France and the other adjoining European nations. As it was feared that the continuance of this trend was likely to weaken the military prowess of the nation, the question of fertility became one of intense concern to the government.

In contrast to what has been observed above, the development of demographic research in India took place in a totally different context. The growing imbalance between economic resources and population began to exercise the minds of the administrators and of students of population while no such demographic situation marked the beginning of fertility research in the Western countries.

The development of fertility research in India

A perusal of the ancient administrative reports seems to suggest that some form of demographic activity was being pursued in India even in those early days. But these activities could not be strictly termed as 'research', and the political instability that soon followed wiped off even the vestiges of such demographic pursuits. However, the initiation of the decennial census operations in the latter half of the nineteenth century provided a real basis for the subsequent development of demographic studies in this country. The inclusion of a few questions relating to fertility in the 1931 Census questionnaire slightly enlarged the scope for fertility studies. Further, the rapid growth of population observed during 1931-40 drew the attention of the demographers to the implications of a rapid population growth in the context of social and economic planning. But the inadequacies in the basic demographic data, particularly those related to the available vital statistics from the reporting system, largely impeded the progress of fertility research. This was no doubt realized by the government which set up expert committees from time to time to examine the question. Despite all these steps, it would appear as though it might take some time before we can hope to achieve the degree of perfection attained in some of the more advanced nations of the world in the matter of recording vital data.

Nevertheless, with the gradual development of modern statistical science in this country, there was also a growing interest in demographic research. The acquired statistical skill could be fruitfully employed for designing sample surveys for the collection of demographic data. It is held that "scientifically planned sample surveys could adequately meet the needs of demographic research, provide estimates of population growth and furnish useful information for the study of differential fertility and mortality" (*A Note on Demographic Research* in the Annual Report of the Indian Statistical Institute, 1961-62). The Indian Statistical Institute started collecting data on fertility in this manner as early as 1937. The National Sample Survey was started in 1950 with the object of obtaining comprehensive and continuing information relating to social, economic and demographic particulars on a country-wide basis. In some of the rounds of the National Sample Survey, detailed information on the fertility history of the couples and the associated demographic characteristics have been collected on an all-India scale. On the of these data a number of studies, some of them of

gical importance, have been carried out. In particular, they relate to fertility trends, differential fertility, age specific fertility rates, family planning, under-reporting of vital events due to recall lapse and other factors, and the techniques for the adjustment of such under-reporting, etc. The nature of demographic research carried out in the institute has been summarised in a note on demographic research given in the Institute's Annual Report for 1961-62.

Besides, the lively interest taken by other institutions in India also contributed substantially to the development of demographic research in the country. For instance, to mention only a few, the All-India Institute of Hygiene and Public Health has carried out a number of important investigations which include, among others, a survey on the effect of economic and social factors on the reproductive pattern of women in certain selected areas in Bengal and a rural population control study in Singur. The Gokhale Institute of Economics and Politics has undertaken extensive demographic studies in both the rural and urban areas of Western India which have given a variety of information on essential demographic aspects. The population survey jointly sponsored by the Government of India and the United Nations Organization in Mysore State in 1951, for studying the inter-relationships of economic, social and population changes, reflects the recognition of the importance of demographic research as an aid to social and economic planning. The report embodying the results of the survey is a work of great significance in the demographic literature of the country. More recently, the Indian Institute of Population Studies at Madras has made a number of useful studies particularly with reference to fertility. The institute publishes *Population Review*, a bi-annual journal of Asian demography.

The Planning Commission had come into being by this time and in the context of the developmental schemes formulated by the Commission, various aspects of the population problem began to receive greater attention. This led, among other things, to the inclusion of family planning in the First Five-Year Plan which was elaborated in the subsequent plans. The programme emphasized the need to obtain an accurate picture of the factors contributing to the rapid population increase in India.

Further, the government is giving financial assistance to training and research institutions to carry on demographic studies. A network of demographic research centres has been established for the promotion of demographic work and training. Commendable work

not only in the area of fertility but also in several other demographic spheres is being pursued by the Registrar-General's office which also publishes a journal—*Indian Population Bulletin*. Besides, there are other institutions whose contributions to the advancement of demographic research in this country cannot be construed as small.

Above all, the keen and healthy interest shown by the government in the promotion of demographic research is an encouraging sign for the future progress of fertility research in this country which will tend to accelerate the process of adjustment between population growth and economic development.

Summary

The realization that a fast growing population tends to nullify the benefits accruing from economic development has acted as a stimulus to fertility research in this country in recent years. However, it was in totally different demographic situations that fertility research in the advanced nations of the West developed about a century or so ago.

The desired equilibrium between population and economic growth may be achieved by simultaneous action on both the fronts, but in view of the fact that motivation to regulate fertility comes only after the attainment of a certain degree of education and economic prosperity, it might appear that considerations of economic development should get precedence over those of fertility regulation.

A number of institutions and agencies have made substantial contributions to the development of fertility research in this country, thanks to the initiative and keen interest evinced by the government in this field. With increasing participation of the institutions and the government in this field, the tempo of fertility research will be accelerated and this is expected to indicate more clearly suitable lines of action for population control.

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THE UNWANTED CHILD*

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The subject on which I have been asked to speak this morning is that of the psychological and social problems of unwanted children both during childhood and adult life, and the repercussions that these problems may have on society. I speak as a child psychiatrist whose major interest is in the developmental problems of children, and who in the last twenty years has been specially concerned with the inter-cultural aspects of these problems.

When I first heard the title of my paper I was seized with doubt as to whether one could make any sort of uniform sense to a culturally heterogeneous conference like this one. It appears to me that whether children are wanted or unwanted by their parents or by society is one of the most tightly culture-bound of human attitudes. It is hardly possible to make generalisations about parental attitudes that can apply equally in Northern, Mediterranean and Eastern European, Levantine and Arab cultures, and neither in the traditional nor in the nascent cultures of developing Africa.

Before going any further, I would like to make a distinction between two kinds of "not wantedness"; first, the absence of a positive want for the child for its own sake, and as an individual in its own right; and, second, a negative attitude to, or rejection of, the child. Among the many and various styles of family life and organisation that can be found in different cultures, there are some in which the lack of a positive wanting of the child may disastrously affect the child's development; and there are other cultures where the new-born baby is not recognised at all as being an unique personality, so that the question of *wanting* him for his own sake never arises, and the fact that he is not positively *wanted* does not matter at all. Similarly the effect on the child of outright rejection varies widely from culture to culture.

It might be said that whether an individual is in a position either to want or not to want a child is largely a cultural artefact. Perhaps only among a minority of members of a very few cultures,

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and in comparatively recent times, has an individual been able to exercise as much as a phantasy choice about having children. In most of the world the existence of very strong cultural pressures, heavy with tradition and religion, and endowed with all the strength of community sense of unity in a world felt to be hostile, has resulted in largely automatic individual attitudes. Dissident thoughts and impulses may never even reach consciousness.

This may be best illustrated in a tribal society where the units are comparatively small and the life settled. Whether a particular child is wanted or unwanted is a tribal affair in which the individual parent is not especially closely concerned. The state of nutrition or political security may determine the question, but in some ancient and complex civilisations the question of whether children are wanted or not may reach extreme degrees of formalisation. For example, in traditional China there was an insatiable hunger for male children, not least because of the formal rites that must be performed by the male heirs after the death of the parents. But the corpses of girl babies used to be a stock ingredient of horror felt by one-time Western visitors to China. But there was hardly anything personal in this—it was not a particular little boy who was wanted or a particular little girl who was not wanted. Nobody was compelled to live in close symbiotic relationship with the latter should she be fortunate—or unfortunate—enough to survive. And she might very possibly never learn in all of her life what it could mean to be loved for herself and to love in return. The treatment she received was the result of a formalised cultural attitude to the presence in the family of more than a certain number of girl babies.

In classical Hindu India similar, if less rigidly formalised, cultural mechanisms have led to a high valuation of boy babies than girl, with the arresting result that the mortality rates among female children are far higher than those among the male. To give another illustration, a similar impersonality of attitude is reflected in the polite, if hyperbolic, wish frequently expressed by recipients of favours in Moslem countries (with more than a faint echo in Mediterranean Europe) that the benefactor may have 100 strong sons—presumably not for their own sakes, but as a way of symbolising a great increase in family strength.

It appears to me that the one inescapable criterion of whether children are wanted or not in a community is the child mortality rate. Wherever the child mortality rate is high it cannot be claimed on behalf of that community that children are really and genuinely

wanted there, as individuals for their own sakes. Where children are wanted and valued when they arrive, the community studies to understand how to conduct life so that the children flourish.

I think that inter-cultural comparisons about wanted and unwanted children can be made legitimately only between those cultures where the child mortality rates are more or less equal. The chief source of confusion here, is that the visible presence of children living in the community with no one special to look after them is mistaken for evidence as to whether children are wanted or not. On the contrary, I would suggest that the presence of children without parents relates only to the type of family organisation and has no immediate connection with whether they were wanted or not. Where, as is usually the case, a relatively large number of children without parents corresponds with a low child mortality rate, it is evidence only that someone at least, has taken good care of the children. I would repeat, no community that really wants to have its children will allow them to die, generation after generation, without finding out how to stop the mortality.

In my opinion, the key to these questions is the style of interpersonal relationships within the family. This is a very complex subject, and in order to make it manageable in a single paper, I am going to beam my remarks on three illustrative styles of family organisation and functioning, recognising that more than one variant of the prevailing style may co-exist even within a single community.

First, I want to refer to the so-called nuclear, or biological, family unit found characteristically where English is the mother tongue, and in a varying degree also in parts of Northern Europe. According to this style, the family unit consists of parents and those young children who are still in need of parental care. Whether grandparents or the parents' collaterals enter into the intimate family circle depends as much on proximity as on any other factor. In Great Britain, where the population has increased five-fold in 150 years, where vast new urban areas have sprung up, and where perhaps half as many of the population increase have emigrated overseas, it is a simple fact of logistics that the extended family has not generally maintained intimate contact. For at least five generations young people have been waiving away from their parents. Moreover, evidence suggests that the nuclear style of family organisation has been the social norm in England, at least since the end of the sixteenth century. Typically, the family consists of two parents and an average of 2 or 3 children living a self-contained life in the closest intimacy. Ties with

collaterals are elastic and flexible, barely noticeable in good times, but showing immense tensile strength and capable of stretching across the world in times of stress.

Secondly, there is the extended family found in many complex civilisations, notably in societies of the Latin culture. These families, like the nuclear families mentioned above, are illuminated by the Judeo-Christian concept of the Love of God for Man and therefore of Man for Man, but the system of loving relationships, instead of being focussed on the nuclear group, passes directly up and down three or four generations, and also spreads collaterally but through the common ancestors. Although the size and extent of this style of family organisation also depends upon proximity, the parent-child relationship is very far from being self-contained. The homeostatic forces are very strong, and the regulating influences governing the relations between the various generations tend to be formalised.

Thus, the extended family depends for its strength not only upon its numbers but also on the harmony and efficiency of organisation of its internal relationships. Conformity and obedience to the family will are high cultural values, as compared with families of the nuclear tradition, where individuality and mutual respect are perhaps valued more highly. In both cases love is the ultimate in values, whereas, in another form of extended family style that is common to Islamic cultures, as study of sacred writing shows, the emphasis is on Man's over-riding duty of obedience to God and God's reciprocation by protection of Man. It follows that in the Islamic extended family, in which the head of the family is the representative of God, strength comes from numbers and from obedience. Thus the new baby is valued less for his individuality than for the added strength he brings to the family, which, in the case of the girl baby may not be valued highly.

Thirdly, we have already referred to the tribal style of family organisation of the small, settled community where everybody knows everyone else, where territorial considerations are important and where intermarriage has obscured kinship ties, so that belonging to the neighbourhood may be as highly valued as a recognised blood relationship. It is typical of tribal societies that sexual behaviour is regulated by custom and taboo, and that life is led in the open with an unquestioning acceptance of custom. The question of a child being either wanted or unwanted, strictly speaking, cannot arise. In any case, when a child is born, there is no recourse but

to accept it, because the disposal of unwanted babies—like everything else—is governed by strict custom. In general, the question of a baby being wanted or unwanted in a tribal society is a delicate balance between political and economic need for man-power, available nutrition and the toll of infantile mortality—but common to all these forms of family organisation there are some basic aspects of individual psychology to consider. It is generally agreed that in no form of human social organisation, however simple, does instinct play a direct part in the regulation of behaviour. Universally and in all normal circumstances, instinctual drives are modified, controlled and directed. This principle applies as much to the sexual as to any other aspect of human behaviour. There are exceptions, of course, one being the universal appeal of the tiny baby for the woman who has recently been through the discipline of pregnancy and the experience of child birth. But even here the strength of the appeal varies enormously from woman to woman.

Men are not subject to similar direct instinctual ties with the tiny baby. Whatever influences men to want to have children of their own cannot be ascribed directly to instinct. Indeed, evidence of myths and archaeology suggests that a very long time may have elapsed in pre-history before men, as distinct from women, connected in their thinking the fact of child birth with any specific action of their own. It has always been a major problem of society in its various forms how to reconcile men with the protective and providing role of fatherhood for a period long enough to allow their children time to grow up.

In contrast, women cannot escape the responsibility of the results of their reproductive behaviour. A combination of the baby's helplessness and the mother's instinctual fulfilment bind them together with the strongest possible ties. Social ingenuity, where it is exerted, is in the direction of helping the mother to escape, partially from her ties and not, as in the case of men, to make the ties secure. In complex societies the affluent employ nurses; or there may be divisions of function in the family by which only certain women devote themselves to the care of young children, or in a simpler society devices like a cloth sling enable the mother to escape at least from the exclusive preoccupation with the baby.

The balance of psychological evidence is that there is no direct instinctual drive towards wanting children. The parental attitude is determined by culture rather than instinct. The social mechanism that mediates these parental attitudes is, of course, the family on

which in all cultures an immense biological survival value is placed. If we first consider the simple tribal society, the family represents a self-sufficient and self-providing unit within which men, women and children can satisfy their normal needs, and solve their problems; they can get food, love, comfort, rest, intellectual stimulation, companionship and creativeness. When times are unfavourable or threatening, the family unit needs the protection of the larger collective unit or tribe. Typically all the members of the group know everybody else, and the strength of the simple society depends upon the whole-hearted identification of each member with the collective being.

Each member must accept his social role without reservation; the men have to live with the women with whom the tribe thinks it is appropriate for them to live, and they have to conduct their lives together in the socially acceptable manner. The arrival of children to the couple is a matter neither for wanting nor for not wanting. The relationship between the individual mother and father and their children is not subject to conscious planning and provision. At times there may be group reasons why the arrival of a new baby may be welcome and at other times unwelcome. If family numbers are dwindling or if there are threats from an epidemic, natural disaster or another tribe, children will be wanted badly—but the individual child will not be wanted for his own sake, but for the social role he will fill. At other times insufficient food, or ill-health among the women, or an excess of female children may make additional babies unwelcome—but not especially the individual baby in the individual family. In any case in unfavourable conditions, the chances of survival of the unwanted child are very small. In short, if there are social roles available children will be wanted; if not, they will not survive.

In more complex societies the problem cannot be stated so directly nor an unwelcome baby disposed of so unconsciously except, as I have remarked above, where infant mortality is high. Whether the family organisation is a nuclear one or more extended one the advent of a new baby is an important event that will mean a great deal to at least certain individuals in the family.

The importance of the new baby can be best illustrated by reference to the first baby of a young couple in a society with a nuclear form of family organisation. The old English saying has it that "two's company, three's none". The first baby brings a radical and sudden change into the life and mutual relationships of the young

parents. They are no longer living exclusively for each other, but in partnership together for their baby. The old snug companionship of two people highly identified with each other has gone for ever. Those who have never lived in this style of relationship may have little concept of what the change may mean. The young couple may have been living together in a small apartment, perhaps cut off by distance or by inclination because of the exclusiveness of their mutual feeling, from both relatives and friends. They may have enjoyed months or years of virtually exclusive preoccupation with each other—it is perhaps usual for a young couple to give up all other intimacies. When the third person, the baby, arrives, life changes.

For emotionally mature couples, the arrival of the baby may be the most dearly longed for event, representing the gift of each spouse to the other, but where, as may sometimes happen, the couple have married for reasons other than the fulfilment of mutual love the birth of the child may have quite other effects. Some couples may marry because each is in search of a parent substitute, or in an attempt to get compensation for an unhappy childhood. Others may marry trying to prove themselves, or to compensate for a feeling of inferiority. Still others may marry for family or domestic reasons, to secure property or social position. These may be sound enough reasons for marriage in a society with an extended type of family organisation, but in a nuclear family society may spell disaster because of the numerical limitations of the intimate family circle. In all these cases the birth of the baby may threaten the marital adjustment of the spouses.

The arrival of second and later children causes a less radical but still considerable change in the relationships within these small families. There is always the chance of critical tensions arising which, if resolved satisfactorily, result in family relationships with a unique degree of intimacy and warmth and of great tensile strength, as I have remarked. If resolved unsatisfactorily the children are, comparatively speaking, at much greater risk than the children in more extended families. In a nuclear family, if parents and children do not like each other the outlook is poor for all parties, and it may be said that the first symptom of parental dislike is not to want to have the child. Almost inevitably, if one partner does not want the child the marriage is thrown off balance. Commonly the other parent may attempt to compensate, and the child may become a pawn in the ensuing marital struggle. This, as all of us who work in this style of society know only too well, is a high road

to the breakdown of the marriage and, where society permits it, to divorce.

In my introductory remarks, I defined two kinds of wanted/not wanted. It is the absence of a positive tie with the baby, of a wanting of the child for its own individual sake, that may cripple the relationships in a nuclear style of family. A negative attitude or rejection of the child is, of course, disastrous also, though it may call out a compensatory reaction on the part of the other parent that may possibly do much to repair the situation. Because of this compensation although rejection of the child in any type of family is at least unpromising, it does not follow that the rejected child in the nuclear family will be neglected nor on balance, taking both parents into account, not wanted.

The main risk to which this child is exposed, when he is not positively wanted in the nuclear family, is that the quality of the relationships that he develops with his parents will be lacking in sufficient warmth and intimacy to enable him to flourish in the atmosphere of the very small biological family group. This type of problem is unlikely to be reflected in the statistics relating to neglect of children nor in the obvious signs of unwantedness. It may, however, be related to more clinical problems of neurosis and behaviour disorders at later periods of childhood.

If I may make a brief clinical digression for the sake of better illustration—what may subsequently happen to these not positively wanted children will depend on combinations of three sets of factors: first, the age at which the lack of positive care impinges most on the child, and the presence or absence of adequate compensating relationships; second, the degree of activity or passivity shown by the child; and third the extent to which the child has an out-turning or an inturning type of temperament.

Where relationship deficiencies impinge most during the suckling period, the clinical possibilities include autism (when circumstances are unusually unfavourable) or at least a permanent coolness and lack of emotional depth. At a slightly later age, the active and out-turning child is likely to "act out" his problems in overcompensating, aggressive, self-seeking behaviour; whereas the active but in-turning child may withdraw into a more or less impenetrable schizoid state, in which it is very difficult to make contact with him. In both types, if the difficulties occur more during the early toddler period there may be an element of hostility in the child's make-up.

hostility that may get out of control and lead to psychopathic behaviour—aggressive in the one case and cold and withdrawing in the other.

The passive but out-turning child tends to float on the surface of life, making little effort for himself and usually earning at school an unenviable reputation of being lazy, or "bone idle", whatever that may mean. The passive and in-turning child is at some risk of a serious withdrawal into anxiety and depressiveness and psychosomatic symptoms, though these last may equally well occur among the out-turning.

Another problem of nuclear families that has no precise parallel in extended families, is the wanting of a child for neurotic reasons. The immature mother who wants a child as an extension of her own inadequate personality or as a protection or a weapon against her husband, is likely to bind the child to her at a relatively infantile level of relationship in which the child may become more or less fixed. Thus, the normal triangular relationship may never evolve and the child may persist in a linear type of relationship with one parent only, relating to the other parent only through the first. This will probably result either in excessive or lasting dependency, or in a neurotically determined rebellion, later, against the parental dominance.

A subtle variant of the state of not wanting children may sometimes be found in nuclear families in which one or both parents adopt a fixed role towards their children and adhere to it rigidly without change over the years. Often it may happen that the parental attitude is not unsuitable for infancy and early childhood, but persisted in it constitutes an impassable obstacle to normal progress. As we have seen, an unchanging parental role is incompatible with healthy relationships in nuclear families.

If we may compare the above with what is likely to happen in families with a more extended structure—where, as we have seen, there are usually many more people involved in the system of relationships and certainly more generations, and members of collateral branches, here the emphasis may be more on the assumption of the group or social role by the child than on the development of intimate mutual relationships between parents and children. Thus, as the generations grow older there may be very little relative change in their relationships, which retain their linear character rather than acquire a triangular one. In this style of family the question of positive wanting and the formation of the intimate personal ties are of far less importance to the future of the child. If he does not form

a wholly satisfying relationship with his own parents, there are other people with whom he can relate. In these conditions the question of whether parents positively want to have a child for its own sake is hardly relevant, not least because extended family dynamics demand that young married couples should have their due quota of children. All influences favour this, practically none go against it.

I would interpose the remark here that comparisons made between different styles of family organisation, such as I am making here, are frequently interpreted as being an expression of preference for one family style over another. Preferences are quite irrelevant to the argument here; but what is important is to note the fact, quite objectively that each style of family life tends to create systems of relationships that perpetuate the family style. In other words, the exclusiveness, intimacy and emotional intensity of the relationships in the nuclear style of family will result in the child himself, when grown up, recreating that style of family. On the other hand, the more extended family pattern of upbringing fits children for the more formal type of family life. All this is very obvious but the tremendous importance of this fact in modern times can be seen when, during the course of economic development of countries where there is an extended style of family life, the family is broken up into small units, which have to try to live a style of life for which their upbringing has not prepared them. I shall be returning to this at the end of my paper.

The problem of the rejected child in the extended family is again different from that in the nuclear family. At first sight it appears that the rejected child is not likely to suffer so much in the extended family. There are other people available who are in a position to provide it with the quality of care suitable for that style of family life, although it may not be particularly intimate. It is an obvious fact that unwanted children do not stand out so much in this style of society as they do in a more nuclear style. There is not the same need for the collective or community care of children without parents. On the other hand, there are not the compensating drives as well. In a nuclear family, the rejecting mother is faced personally with the responsibility for bringing up her child which she either has to shelter or to make arrangements to pass on to somebody else. In the case of the extended family, no single individual may feel a strong responsibility and as may be verified by statistics, the infant mortality tends to be higher than with a more nuclear one.

The different atmospheres characteristic of these kinds of family organisation need to be taken into account in discussing the whole question of regulating the arrival of children in the family. This is very complicated, and I will only say here that to those who have themselves been brought up in an extended family based on the Latin type model, for whom the integrity of the family as a whole is an important value, it may well appear to be presumptuous or even immoral for an individual married couple to take upon themselves the right to regulate the growth of their family. Such an attitude on the part of a young couple threatens the foundations of the inter-relations on which the family is built up.

In contrast, for those who have been brought up within a nuclear family, with its dependence upon the quality of intimacy of the inter-personal relationships of perhaps only four or five people, the attempt on the part of a third party to deny the young couple the right to manage their relationships for themselves, including their sexual relationships, must appear to them to be at least presumptuous and morally unjustified. When the attempt is made by men, without consulting women, it is likely to strike a very strange note indeed.

The problem of illegitimacy

In any discussion about unwanted children the question of illegitimacy is bound to loom large, but in my view, illegitimacy is hardly relevant in this connection. The generalisation may be made that illegitimacy is a product of the social structure. In a tribal society, as has often been remarked, the problem of illegitimacy rarely arises because the relationship is one of neighbourhood rather than blood relationship. In a society with an extended family structure, the problem is of fitting the illegitimate child into the more or less rigid form of the family, and although this may not be at all easy to do, there is a strong probability that some way can be found of absorbing the child. But in the case of the nuclear family, the main problem is that of finding people who are available and capable of giving the child the type of care that he needs in order to learn to live in that type of society. This is extremely difficult to create by artificial means.

There are a number of reasons contributing to the probability that illegitimacy creates greater social problems in a nuclear family society. Illegitimate children stand out there for two main reasons: the first is that individuals and particularly the mothers and fathers feel more strongly about them, and more guilty and responsible and

unable to cope with them. Secondly, action has more frequently to be taken by society collectively, which means that the plight of these children is brought to public notice more often. Because collective methods of bringing up these children in residential institutions, however small and well-run, are not generally accepted as a satisfactory preparation for life in this kind of society, there is pressure on adoption and fostering which, again draws public attention to these children.

But it is a very dangerous assumption that illegitimate children are not wanted. Indeed, it might equally well be argued that the mother became pregnant because the child was not enough not-wanted to motivate her to prevent conception. Most of us who have worked with the mothers of illegitimate children have been impressed by their ambivalence, that the not-wanting aspects of their attitude are mainly derived from the social situation, and that this has not been strong enough to neutralise their desire to have a baby.

It will be much better for clarity of thinking if the problem of illegitimacy is not discussed in terms of children not being wanted, but rather in terms of changing social and sexual mores. The image and institution of marriage has remained relatively unchanged for several centuries, whereas a combination of important changing factors have altered the situation almost out of recognition. These include the spread of education, the prolongation of the student or apprenticeship period of life, the acceleration of sexual maturation, a tendency in some countries to complete family building within five years of marriage, and the effect of the greater expectation of life. This last factor is an important but neglected one in that whereas at one time perhaps the majority of people who lived to a considerable age had more than one marriage partner, nowadays the chances of the first marriage persisting into old age are far greater. The problem of illegitimacy is more fruitfully discussed in the context of modern strains in marriage than in that of questions of whether the children are wanted or not.

Problems of social change

One of the most burning questions of the modern age is that of social transition, particularly in the developing countries of Africa, Asia and Central and South America. We are being faced all over the world now with a break up of familiar social patterns and family forms into new ways of life that, in many cases, have no roots in the past and no justification other than the fortuitous concurrence of events. As I have already remarked, the very fact of social develop-

ment and industrialisation creates conditions that are incompatible with the maintenance of life in the old traditional patterns of the extended family and tribal society. When a new industrial area is created it draws the young and able-bodied away, and the result is, only too often, social anarchy.

It has appeared to a number of observers that there is no overriding reason why a society that has lived at a Bronze Age level of civilisation for centuries may not make a relatively smooth change within the space of one generation, to the life of a modern industrial urban society, provided that no bad habits of social living are developed on the way. These so-called bad habits are to be found in the type of shanty town that tends to spring up unplanned on the outskirts of a new factory area, and where conditions of social anarchy prevail. This aspect of the subject is only relevant this morning in respect of the fact that under these circumstances what is wanted in order to prevent disaster is very much more than planned parenthood. What is needed is a flexible policy of social planning that strives to ensure that the units that split off from a family are capable of forming their own independent, self-sufficient family groups.

The case of the nuclear family society usually presents little difficulty, since the whole state of family life and children's upbringing has been in the direction of the independence and self-sufficiency of young couples.

In the case of the tribal society, transition need not cause difficulty but it certainly will do so if in the processes of movement the tribal structure is entirely destroyed. In other words, where there is a tribal family organisation every effort should be made to preserve, at least for the space of one generation, the authority structure in the local society, so that the children in the first generation of change may assimilate the changing conditions through the schools and so on in the new areas, while still being embodied in the original social matrix. The traditional way of life will of course rapidly become modified, but at least it will serve as a splint for the new society while it is developing. The point of interest for us here is that under these conditions it will be possible for young parents for the first time in their lives either to want or not to want to have children, and it is up to us to ensure that they know how to use their new-found powers and to use them wisely.

As far as the more extended type of family structure is concerned, the problem is a great deal more complex and can only be dealt with

by attention to the particular circumstances and the nature of the society concerned. In general, one may remark that the important thing is to keep together the kind of family grouping which is capable of sustaining a life on its own, and this may often involve collateral branches of a family migrating together. This inevitably involves a break up of the lineal structure of the family and, again, our problem is how to help the young couples to use wisely their new-found ability to decide for themselves whether they want to have children or not.

I have for long felt that much more might be done with the help of modern technical improvements in communication and sources of power, to take developing industry to existing established communities rather than, as almost invariably happens to-day, to set up the new industry at a site that is convenient to the manufacturers and make the people migrate to it. This is such an elementary way of avoiding social chaos that I have never been able to understand why it has not been considered more seriously.

May I conclude by recapitulating the thought that it has been in only comparatively few places and in comparatively recent times that the question of whether a child is wanted or not wanted has become important. The effect of these attitudes both at a conscious and at an unconscious level is almost entirely dependent upon the type of social structure, and particularly the family organisation in which the individual is living. In tribal societies and societies with an extended type of family organisation the opportunity to want or not to want a child is exceptional rather than the rule. In societies with a nuclear style of family organisation, the very great advantages of parents positively desiring a baby for its own sake have resulted in the wanting of children becoming a high value in these societies. One result of this is that the wanting or not wanting of children has tended to be treated as a moral issue and the confusion that has ensued has become worse confounded by the fact that the moral values attached to sexual behaviour are also involved. These issues can only be dealt with provided clarity of thought be maintained about cultural influences and moral issues.

NOTES AND ABSTRACTS

IPPF RECOMMENDS USE OF INTRA-UTERINE DEVICE

A recommendation to member-organisations to use intra-uterine devices in their family planning programme has been made in a resolution passed by the Intra-Uterine Device Group of the IPPF Evaluation Sub-Committee. The committee met in New York following the Population Council's Second International Conference on Intra-Uterine Contraception and agreed that the effectiveness, acceptability and safety of the I.U.Ds has now been demonstrated.

The text of the resolution is as follows:

"Whereas in the opinion of the Sub-Committee the effectiveness, acceptability and safety of the I.U.Ds have now been demonstrated, it is recommended that these devices be used by member-organisations of the International Planned Parenthood Federation."

The group also considered other aspects of the use and availability of I.U.Ds in family planning clinics. A summary of its decisions, which were accepted by the Medical Committee of the IPPF is as follows:

(1) Mode of Action

The I.U.D. interferes with conception at some point from ovulation to implantation and there is some evidence that it interferes with fertilization. There is no evidence that it acts by affecting the implanted ovum.

(2) Availability of Supplies

The five types at present available are: the Margulies spiral, the Lippes Loop, the Birnberg bow, the Hall-Stone stainless steel ring and the Zipper Nylon Ring. The first four types can be obtained from manufacturers and detailed information will be sent on request. The Zipper ring can be made easily and instructions for making it can also be provided.

The Lippes loop is being manufactured in Hong Kong and supplies will be available shortly to family planning groups at a comparatively small cost. Detailed information on how to obtain supplies will be circulated to IPPF member-organisations and Regional organisations as soon as the devices are ready for distribution.

(3) Who should fit the devices ?

The following may be recommended to insert the devices :

- (a) Specialists in obstetrics and gynaecology ;
- (b) other doctors with special training or experience ;
- (c) specifically trained midwives and nurses under the supervision of a doctor, if this appears appropriate in a particular country.

(4) Contra-indications to the use of I.U.D.

Pregnancy or a suspicion of pregnancy, present or recent pelvic inflammatory disease, gynaecological cancer or large fibroids distorting the uterine cavity. No limitation was placed on the elapsed interval after pregnancy or abortion before insertion can be carried out.

(5) Follow up

No specific advice was suggested as to initial and subsequent re-examination.

The Committee further agreed that a short manual for the medical practitioner was needed and this will be prepared shortly. Application should be made to the Secretary of the Medical Committee of the IPPF.

INTERNATIONAL BODY FOR POPULATION CONTROL URGED

In his Presidential Address to the British Association for the Advancement of Science in Southampton, England, on 26th August, 1964, the eminent British physician, Lord Brain, who is President of the FPA of Great Britain, called for an international body under UNO to help control world population. He suggested that while world population growth could not be adequately dealt with at the national level, an international body could collect and collate all available demographic information, take into account present and prospective supplies of food and water and the economic and cultural needs of growing populations. It could also review all current scientific work on the subject. This would provide every nation with the information on which to base its own population policy, and all would know what each nation was doing in a matter which collectively concerned all.

Lord Brain pointed out that the third world survey conducted by the Food and Agricultural Organisation in 1963, showed that 10 to 15 per cent of the world's population was now living on a diet with insufficient calories and 50 per cent were either undernourished or

suffering from malnutrition, or both. "The task, not only of raising the standard of living for them, but also of providing such an improved standard of living for twice the present numbers in 40 years, is the challenge which now faces us. And we must not forget that people need not only food, but also water, roads, industrial plant, education and indeed all the means to a full life."

He deplored the fact that "until now the human race has left its future numbers to chance. The average animal breeder has shown more concern about the consequences of his acts than the ordinary human being about what will happen to his own descendants. The animal breeder looks ten generations or more ahead; the human breeder not more than two, if that."

Britain, he said, had no population policy. Thus the current rate of population growth had taken the country by surprise, and its full implications had yet to be considered. Giving an example from the medical profession, Lord Brain said that it was clear that many more doctors would be needed in 30 years time and therefore more medical schools would be required. Similar needs would also arise as regards education, housing, etc. Thus the greatest need today, he opined, is to acquire the power of looking ahead, of forecasting and preparing for the consequences of the accelerating developments of science and technology. And the main preliminary step towards this essential foresight is education—at all levels of society.

MEDICAL HANDBOOK (PART ONE) : CONTRACEPTION .

The revised and enlarged edition of the Medical Handbook (Part I) has been published by the International Planned Parenthood Federation. Priced at 10 shillings, this book is a guide to all methods of contraception and includes the latest available information on intrauterine devices and oral contraceptives.

The nine chapters and eight appendices in the book provide a useful outline of the staffing and equipment of clinics, the various methods of contraception and their effectiveness, sterilisation, tests and standards for chemical and rubber contraceptives, training facilities in various countries, teaching methods in the use of contraceptives and suggested instructions for patients, and results of approved international tests for chemical spermicides.

Under the direction of the IPPF Medical Committee, the Handbook has been prepared by a distinguished group of international specialists in the field of family planning. The first edition of the book was published in August 1962.

BOOK REVIEWS

Medical History of Contraception by Norman E. Himes, Ph.D.

This book is an important contribution to the history of medicine in general and the history of contraceptive practice in particular. The book was first published in 1936 by the National Committee on Maternal Health and was reprinted by the Gamut Press in 1963.

The author traces the history of contraceptive techniques through the centuries, beginning with the magical rituals and herbal recipes used by preliterate societies to control conception, and goes on to describe the quasi-rational methods mentioned by the Egyptians and by the early Greek, Roman and Islamic physicians. One of the author's theses is that certain sound principles of contraception were accidentally hit upon early in man's history as a result of trial, rejection, re-trial and success. For instance, the Ebers papyrus mentions a prescription containing tips of acacia and honey with which a lint is saturated and placed in the vagina. The wisdom of the ancients is evident when we note that when gum arabic undergoes fermentation, lactic acid is liberated—an active agent used in several modern contraceptive jellies. In Sumatra, a black pill used as a local contraceptive by the Achehnese women, was found to contain a large quantity of tannic acid—another spermicidal agent. The Greek and Roman writers, especially Soranus and Aetios, carried rational contraceptive medicine to a higher degree of development than any of their predecessors. Included in their recipes are gum, olive oil, pomegranate, vinegar, brine and, interestingly enough, rose oil which has been found to be spermicidal in the high dilution of 1 in 700.

In the Eastern cultures we again find a range of methods—the use of amulets and potions, sexual tabus and laws of ceremonial abstinence, coitus interruptus and coitus reservatus, abortifacients, as well as quasi-rational methods such as vaginal anointments, vaginal fumigations and the use of rock salt dipped in oil and placed in the vagina.

Himes devotes a whole chapter to the history of the condom beginning with the early Egyptians who used penis protectors not as contraceptives but to guard against bilharzia and insect bites, and

also as a badge of rank, for decoration or modesty or as amulets against infertility. He then traces the use of the condom as a protective against syphilis in the 16th century and later as a contraceptive in the 18th century. With the discovery of the process of vulcanization of rubber in 1843, the rubber condom came into its own.

An important thesis around which the author builds all his data is that while the desire for conception control is universal in time and space, and while fragmentary knowledge of contraceptive methods has existed in all major cultures, the actual practice of conception control is less general. He then sets out to prove 'by documentary evidence' that contraceptive knowledge has been enormously diffused and democratised especially in the last 100 years. Whereas this knowledge was previously the monopoly of physicians and midwives, the last century has witnessed an organised effort to acquaint the masses with rational, harmless and reliable methods in place of the magical, harmful and ineffective methods with which they were familiar. This spread of birth control knowledge was the direct result of several factors such as industrialisation, urbanisation, weakening of ecclesiastical authority, greater freedom for women and legislation against child labour.

In the 18th and 19th centuries, a few courageous individuals like Place, Carlile and Drysdale in England and Owen and Knowlton in the U.S.A. tried to spread the existing knowledge on this subject through their handbills, pamphlets and books. The Bradlaugh-Besant and Truelove trials of 1877-79, instead of crushing the movement were, on the contrary, responsible for further spreading this knowledge because of the publicity they brought. These trials served the dual purpose of legalising the free distribution of contraceptive knowledge and of advertising the idea that birth control was possible. Towards the end of the 19th century, medical journals gave space to birth control and thus raised it above the 'hush hush' level to the status of a subject which could and should be discussed at a medical, social and eugenic level.

Finally, the author rather elaborately discusses the possible effects of this democratisation of birth control. He believes that it will result in a change in population make-up with consequently a demand for 'fewer toys and more footwarmers'. The value of children will go up and that of older people will go down. There will be a decline in maternal, infant and child mortality, improvement of marital relations, increased liberty of men and women and emancipation of women from the 'slavery of uncontrolled reproduction'. There will also

be less likelihood of wars, greater national strength and group survival, a possible predominance of Catholics over non-Catholics and less migration from the East to the West. Judging by all Himes's criteria, we are nowhere near full democratisation.

In his preface written for the 1963 edition, Dr. Alan Guttmacher briefly outlines the important developments in the field of birth control—social, legal, religious and scientific—which have taken place since this book was first published. As Dr. Guttmacher says, it is fortunate indeed that Gamut Press has selected Himes's *Medical History of Contraception* for reprinting, for the book "is a classic—complete, accurate, scholarly and well-written".

S. Israel, M.D.

Too Many Americans : Tomorrow's Issue by Lincoln and Alice Day, Houghton Mifflin & Co., Boston, 1964. (\$ 4.50)

There is a widespread and popular notion in the West that there are "too many Asians" in this "crowded" and "plundered planet" heading for "standing room only". Now the question is asked: How about the Americans? The book under review argues that if the Americans go on multiplying as they do now, in the not-so-distant future there will be "too many" of them.

The authors—a team of husband and wife—confess that "a double standard is implicit in our (American) attitudes—our population increase is justifiable because we can afford it. *Theirs* a calamity because they cannot. Yet we deny them technical assistance to halt their crippling population growth, and extend financial assistance in amounts far from adequate to the task of improving their economies" (p. 34).

The book is divided into four parts. In Part I, the meaning of population growth in the United States is examined. After throwing light on the meaning of population growth in the world context, the concept of optimum population is examined. The optimum population suggested by Plato in his city states and enforced by the people of Tikopia are mentioned. Quoting C. P. Snow regarding the need for "an appetite for the future", the Americans are reminded that they need right now this 'appetite' for the future with respect to population growth. How population growth in America would

affect the "American way of life" (and death) and how the "trifling restrictions would necessarily be hardened into onerous constraints" are adequately explained. "If population growth in the poorer countries operates to keep people so impoverished that life itself is placed in jeopardy, its most widespread consequences in the more affluent is as a depressant on certain of the personal freedoms and pleasures achieved by mankind upon liberation from extreme want" (p. 45).

Part II takes up the question of the factors shaping the attitude of Americans toward their population growth. The Catholic, Protestant and Jewish religious views on the question are discussed in one chapter. The social attitudes and values affecting contraception and its adoption also receive proper attention.

Part III is perhaps the most important section of this book. The frequent arguments heard—not only in America but even in underdeveloped countries—against population control are listed and criticised.

First comes the economic argument against population control advanced by economists like Colin Clark and A. O. Hirschman that the pressure of population would generate forces strong enough to bring about economic development. With the example of India, the authors carry this argument to its logical conclusion as follows: ". . . for Indians to live more decently there must be even more of them suffering from malnutrition, even more dying prematurely from diseases of poverty, even more sleeping in the streets of Calcutta and Bombay . . ." (p. 136). The absurd nature of the suggestion is well exposed.

The 'scientific' argument that science can wave a magic wand to produce enough and to spare for the human race is considered. Princeton Professor, A. J. Coale's *reductio ad absurdum*: ". . . if current growth (of population) continues, in about 6,500 years, the descendants of the present world population would form a solid sphere of live bodies expanding with a radial velocity that, neglecting relativity, would equal the velocity of light" (p. 156) is quoted to shake off the belief in the omnipotence of science.

In refuting the military argument for a large total population, it is pointed out that military victory has not always gone to the largest population in the past. Instances of Greek victory over the Persians, the Mongol conquests of China, the Spanish conquest of Mexico and South America, the German defeat of Russia in World

War I, etc., illustrate the point well. "If population was the sole or even the most important ingredient in military power, China and India would today be far more powerful than either the U.S. or the Soviet Union" (p. 176).

In Part IV, the 'selective control' argument based on supposed eugenic foundations is ably refuted with the help of several studies.

The question of achieving a stable population in the U.S.A. is attempted in the last part. They conclude that "If we (Americans) are to retain for ourselves and our posterity much of what is valuable in the American way of life, we must bring our population growth to a halt—and we must do so soon" (p. 246).

This is a well-written book, noteworthy for its thoughtful and thought-provoking ideas, a welcome addition not only to the demographer's library but also to the layman's. Though it is mainly a reminder to the affluent American who is likely to forget the implications of a high rate of population growth in his busy pursuit of pleasure, even non-affluent non-Americans in their attempt to raise their level of living by their own bootstraps would be immensely benefited from a careful perusal of this praiseworthy volume.

T. J. Samuel

BOOK REPORTS

The Feminine Mystique by Betty Friedan. Dell Publishing Co., 1964 (Paperback, 384 pages, 75c.).

This best-selling, controversial book is well worth reading. It has many implications for marriage counselling. The thesis is that American 'women, having been emancipated, have now been persuaded that their true role is to be wives and mothers, and not persons in their own right. In attempting to respond to this subtle persuasion, they have become involved in a crisis of identity. Every marriage counsellor who knows the "trapped housewife syndrome" will find this book illuminating. It is very well written and profusely documented.

The Talking Cure by Morton Hunt, Rena Corman and Louis Armont. Harper & Row, New York, 1964 (171 pages, \$3.95).

A very readable explanation of psychoanalysis for the intelligent layman, in the form of nine reported conversations. It explains clearly the history and development of Freud's ideas, and the process of analysis as practised today. It could be most helpful reading for a client requiring referral to depth therapy.

Marriage Counselling: Theory and Practice by Dean Johnson. Prentice-Hall, New Jersey, 1961 (246 pages, no price given).

The untimely death of Dean Johnson, one of the most promising young pioneers in the marriage counselling field, was a tragic loss. It is good to have, in this book, the fruits of his experience as a clinician and as a trainer of clinicians. It represents a responsible, faithful exposition of the principles underlying the philosophy of the American Association of Marriage Counsellors. For Dean Johnson, counselling was "a practical art based on scientific knowledge", and here he presents a specific, down-to-earth, step-by-step account of the process. His book distils the mature wisdom of a fine human being who really cared for other people.

A Manual on Marital Reconciliations by Nester Kohut. Adams Press, Chicago, 1964 (Paperback, 100 pages, no price listed).

A thoughtful and well-documented essay on marriage breakdown, which elaborates the thesis that "a substantial number of marriages alleged by the partners and supposed by the attorneys and divorce courts to be broken, lifeless or irreparable, are not in fact completely or irreversibly broken." The author, a lawyer, is a Non-Clinical Associate of the American Association of Marriage Counsellors. His view is that contemporary American culture tends to give up too easily on marriages in conflict, that people are capable of great change, and that the struggle to achieve adjustment in marriage can be a significant factor in personality growth. Divorcing couples, he suggests, provide "a huge untapped potential for reconciliation," and he urges attorneys to develop better insight into marital dynamics, and to make more enlightened use of marriage counsellors.

The Soviet Family by David and Vera Mace. Doubleday, New York, 1963 (367 pages, \$4.95).

Figures, facts, proverbs and poetry, all set in historical perspective, make this book a mine of information about the way of living, the attitudes and affirmations of the Soviet citizen as lover, spouse, and parent. It disturbs, challenges, and ends on the note that the gulf between the Soviets and the West will be narrowed as they find that they have more in common than they thought. (Report by Ethel Nash.) (Note—A British edition is now published by Hutchinsons, of London.)

The Listening Heart by Jane Mayer. Crown Publishers, Inc., New York, 1961 (283 pages, \$3.95).

The term "counselling by mail" conjures up visions of columns for the love-lorn. But this is different. A woman in deep trouble, living in geographical isolation, meets a member of the American Association of Marriage Counsellors and reaches out for help. Counselling sessions are impossible. So a correspondence is begun, deliberately set up as a means of providing extended counselling. This unusual experiment proved to be productive, and the story has a happy ending. The letters of Beth to Jane, and of Jane to Beth, make up the book (Edited by Lucy Freeman).

Making the Most of Your Income by John L. Springer. Prentice-Hall, New Jersey, 1961 (214 pages, \$4.95).

A readable, sound, and well-balanced guide to the handling of family finances. The author, himself well-qualified, has checked his findings with top-ranking experts in all the major fields concerned—credit, investment, insurance, marketing, house purchase and maintenance, and planning for retirement. For the married couple in need of financial guidance, this book could help to point the way to a sound management plan

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